

The American Journal of Clinical Hypnosis

*The official Journal of the American Society of Clinical Hypnosis
and the Academy of Applied Psychology in Dentistry*

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VOLUME I 42

J/ 1958 - Ap 1960

EDITORIAL

Even as the future of the race marches forward on the feet of children, similarly does the future of a science develop out of the efforts and the strivings of the multitude to whom, in the ultimate, all science belongs. Two vital elements, interdependent upon each other and each futile and fruitless without the other, are essential to such developmental progress. These requisites are a leadership and a following established within a frame of reference fitting and suitable to the scientific goals and purposes sought.

Against the background of these understandings, the American Society of Clinical Hypnosis was organized in July 1957 to promote and to develop a scientific knowledge of hypnosis and its applications in the fields of psychology, dentistry, and medicine.

During the preceding twenty-five years and more, there had developed here and there an increasing awareness and appreciation of the values and significances of hypnosis in the modern conceptual framework of the healing arts and allied disciplines. A potential leadership in the scientific applications of hypnosis existed, but it was essentially so scattered and unorganized, or so limited and restricted, that it offered no adequate organizational development for professionally trained and qualified people interested in and experienced with hypnosis. Efforts over a period of years to secure an adequate, organized, comprehensive leadership conducive to the continued development of scientific hypnosis in the medical and allied professions finally led to the recognition of the need for a definitively national society.

The American Society of Clinical Hypnosis was then organized as the national society to meet the needs for a parent organization with component state, regional and sectional societies.

Thereby can the student, the experimenter and the clinician, wherever located, find readily at hand the aid and the inspiration of others similarly interested, and thus effect an exchange and a development of knowledge for himself and for others.

Membership in The American Society, as specifically stated in the Constitution, is definitely contingent upon professional training at the doctoral level, membership in the appropriate professional society, and also upon sufficient training and experience in hypnosis to qualify for its utilization in the professions represented.

The goals and purposes of The American Society may be summarized briefly as:

1. The promotion and the development of a scientific utilization and understanding of hypnosis in the fields of experimentation, research, clinical applications and interdisciplinary relationships.
2. The exchange and the interchange of ideas and learnings at local, national and also international levels and the consequent development of a spirit and an understanding of scientific fellowship.

3. The promotion and development of adequate and available facilities at the professional level for the teaching of hypnosis.
4. The teaching of the importance and significance in the healing arts of the experiential life and responses of the individual.
5. And finally, to furnish, through The American Journal of Clinical Hypnosis, a medium for the transmission and the recording of findings and understandings, and all that wealth of thinking and expression that constitutes a record of past achievements and a promise for the future.

MILTON H. ERICKSON, M.D.

NATURALISTIC TECHNIQUES OF HYPNOSIS

by Milton H. Erickson, M.D., Phoenix, Arizona

The naturalistic approach to the problem of the induction of hypnotic trances, as opposed to formalized ritualistic procedures of trance induction, merits much more investigation, experimentation and study than have been accorded it to date.

By naturalistic approach is meant the acceptance of the situation encountered and the utilization of it, without endeavoring to restructure it psychologically. In so doing, the presenting behavior of the patient becomes a definite aid and an actual part in inducing a trance, rather than a possible hindrance. For lack of a more definite terminology, the method may be termed a naturalistic approach, in which an aspect of the principle of synergism is utilized.

Basic to this naturalistic approach are the interrelationships and the interdependencies reported by this writer in 1943 and repeatedly confirmed in experience since then. In these studies emphasis was placed upon the desirability of utilizing one modality of response as an integral part in the eliciting of responses in another modality and upon the dependency upon each other of differing modalities of behavior, somewhat analogous to the increasing of the knee jerk by a tensing of the arm muscles.

To illustrate and clarify these points, a number of reports will be cited.

REPORT No. 1

A man in his thirties became interested in hypnosis and volunteered to act as a subject for some experimental studies at a university. In the first hypnotic session he discovered that he was an excellent hypnotic subject, but lost his interest in any further experimental studies.

Several years later he decided to have hypnosis employed by his dentist, since he needed extensive dental work and feared greatly the possibility of pain.

He entered a trance state for his dentist readily, developed an excellent anesthesia of the hand upon suggestion, but failed to be able to transfer this anesthesia or even an analgesia to his mouth in any degree. Instead, he seemed to become even more sensitive orally. Efforts to develop oral anesthesia or analgesia directly also failed.

Further but unsuccessful efforts were painstakingly made by the dentist and a colleague to teach this patient by various techniques either anesthesia or analgesia. He could respond in this way only in parts of the body other than the mouth. He was then brought to this writer as a special problem.

A trance state was induced readily and the patient was casually reminded of his wish for comfort in the dental chair. Thereupon he was instructed to be attentive to the instructions given him and to execute them fully.

Suggestions were then given him that his left hand would become exceedingly sensitive to all stimuli, in fact painfully so. This hyperesthetic state would continue until he received instructions to the contrary. Throughout its duration, however, adequate care would be exercised to protect his hand from painful contacts.

The patient made a full and adequate response to these suggestions. In addition to the hyperesthesia of the hand and entirely without any suggestion to that effect, he developed an anesthesia spontaneously of his mouth, permitting full dental work with no other anesthetic agent.

Even in subsequent efforts, anesthesia or analgesia could not be induced directly or purposely except as a part of the hyperesthesia-anesthesia pattern peculiar to that patient. However, this is not a single instance of this type of behavior. Other comparable cases have been encountered from time to time.

Apparently, psychologically the patient's fixed understanding was that

dental work must absolutely be associated with hypersensitivity. When this rigid understanding was met, dental anesthesia could be achieved, in a fashion analogous to the relaxation of one muscle permitting the contraction of another.

REPORT No. 2

Hypnosis had been attempted repeatedly and unsuccessfully on a dentist's wife by her husband and several of his colleagues. Each time, she stated, she became "absolutely scared stiff, so I just couldn't move and then I'd start crying. I just couldn't do anything they asked. I couldn't relax, I couldn't do hand levitation, I couldn't shut my eyes; all I could do was be scared silly and cry."

Again a naturalistic approach, employing "synergism" was utilized. A general summary of her situation was offered to her in essentially the following words:

"You wish to have hypnosis utilized in connection with your dental work. Your husband and his colleagues wish the same, but each time hypnosis was attempted, you have failed to go into a trance. You got scared stiff and you cried. *It would really be enough just to get stiff without crying.* Now you want me to treat you psychiatrically if necessary, but I don't believe it is. Instead, I will just put you in a trance, so that you can have hypnosis for your dentistry."

She replied, "But I'll just get scared stiff and cry."

She was answered with, "No, you will first get stiff. That is the first thing to do and do it now. Just get more and more stiff, your arms, your legs, your body, your neck—completely stiff—even stiffer than you were with your husband."

"Now close your eyes and let the lids get stiff, so stiff that you can't open them."

Her responses were most adequate.

"Now the next thing you have to do is to get scared silly and then to cry. Of course, you don't want to do this, but you have to because you learned to, *but don't do it just yet.*

"It would be so much easier to take a deep breath and relax all over and to sleep deeply.

"Why don't you try this, instead of going on to getting scared silly and crying?"

Her response to this alternative suggestion was immediate and remarkably good.

The next suggestion was, "Of course you can continue to sleep deeper and deeper in the trance state and be relaxed and comfortable. But any time you wish, you can start to get scared stiff and silly and to cry, but maybe now that you know how to do so, you will just keep on being comfortable in the trance so that any dental or medical work you need can be done comfortably for you."

A simple post-hypnotic suggestion to enable the induction of future trances was then given.

Following this she was asked if she was interested in discovering that she was a most competent subject. Upon her assent, various phenomena of the deep somnambulistic trance were elicited to her pleasure and satisfaction.

Since then, for a period of nearly a year, she has been a most competent subject.

REPORT No. 3

Another type of case in which this same general approach was utilized concerns a bride of a week, who desired a consummation of her marriage but developed a state of extreme panic with her legs in the scissors position at every attempt or offer of an attempt.

She entered the office with her husband, haltingly gave her story, and explained that something had to be done, since she was being threatened with an annulment. Her husband confirmed her story and added other descriptive details.

The technique employed was essentially the same as that utilized in a half dozen similar instances.

She was asked if she were willing to have any reasonable procedure employed to correct her problem. Her answer was, "Yes, anything except that I mustn't be touched, because I just go crazy if I'm touched." This statement her husband corroborated.

She was instructed that hypnosis would be employed. She consented hesitantly, but again demanded that no effort be made to touch her.

She was told that her husband would sit continuously in the chair on the other side of the office and that the writer would also sit continuously beside her husband. She, however, was personally to move her chair to the far side of the room, there to sit down and watch her husband continuously. Should either he or the writer at any time leave their chairs, she was to leave the room immediately, since she was sitting next to the office door.

Next, she was to sprawl out in her chair, leaning far back with her legs extended, her feet crossed, and all the muscles fully tensed. She was then to look at her husband fixedly until all she could see would be him, with just a view of the writer out of the corner of her eye. Her arms were to be crossed in front of her and her fists were to be tightly clenched.

Obediently she began this task. As she did so, she was told to sleep deeper and deeper, seeing nothing but her husband and the writer. As she slept more and more deeply, she would become scared and panicky, unable to move or to do anything except to watch us both and to sleep more and more deeply in the trance, in direct proportion to her panic state.

This panic state, she was instructed, would deepen her trance, and at the same time hold her rigidly immobile in the chair.

Then gradually, she was told, she would begin to feel her husband touching her intimately, caressingly, even though she would continue to see him still on the other side of the room. She was asked if she were willing to experience such sensations and she was informed that her existing body rigidity would relax just sufficiently to permit her to nod or to shake her head in reply, and that an honest answer was to be given slowly and thoughtfully.

Slowly she nodded her head affirmatively.

She was asked to note that both her husband and the writer were turning their heads away from her, because she would now begin to feel a progressively more intimate caressing of her body by her husband, until finally she felt entirely pleased, happy and relaxed.

Approximately five minutes later she addressed the writer, "Please don't look around. I'm so embarrassed. May we go home now, because I'm all right?"

She was dismissed from the office and her husband was instructed to take her home and passively await developments.

Two hours later a joint telephone call was received, explaining simply, "Everything is all right."

A checkup telephone call a week later disclosed all to be well. Approximately fifteen months later they brought their first-born in with the greatest of pride.

Similar techniques have been employed in instances of nuptial impo-

tence. These cases, in which this general approach has been employed, are eight in number; only one illustrative example will be cited.

REPORT No. 4

This twenty-four year old college-bred bridegroom returned from his honeymoon of two weeks most despondent in mood. His bride went immediately to a lawyer's office to seek an annulment, while he sought psychiatric aid.

He was persuaded to bring his wife to the office and, without difficulty, she was persuaded to cooperate in the hypnotherapy of her husband.

This proceeded in the following fashion.

He was told to look at his wife and to experience anew and completely his sense of absolute shame, humiliation and hopeless helplessness.

As he did this, he would feel like doing anything, just anything, to escape from that completely wretched feeling. As this continued, he would feel himself becoming unable to see anything except his wife, even unable to see the writer, though able to hear his voice. As this happened, he would realize that he was entering a deep hypnotic trance in which he would have no control over his entire body. Then he would begin to hallucinate his bride in the nude, and then himself in the nude. This would lead to a discovery that he could not move his body and that he had no control over it. In turn, this would then lead to the surprising discovery for him that he was sensing physical contact with his bride that would become more and more intimate and exciting, and that there would be nothing he could do to control his physical responses. However, there could be no completion of his uncontrolled responses until his bride so requested.

The trance state developed readily and in full accord with the instructions given above.

At the conclusion of the trance state he was instructed, "You now know that you can, you are confident. In fact, you have succeeded and there is nothing that you can do to keep from succeeding again and again."

Consummation was readily effected that evening. They were seen thereafter occasionally in the role of a family advisor and their marriage has been happy for more than ten years.

Another type of case concerns the small child who has been brought unwillingly to the office, and whose parents have both threatened and bribed him in relation to the office call.

REPORT NO. 5

An example is that of an enuretic eight year old boy, half carried, half dragged into the office by his parents. They had previously solicited the aid of the neighbors on his behalf and he had been prayed for publicly in church. Now he was being brought to a "crazy doctor" as the last resort, with a promise of a "hotel dinner," to be provided following the interview.

His resentment and hostility toward all were fully apparent.

The approach was made by declaring, "You're mad and you're going to keep right on being mad, and you think there isn't a thing you can do about it, but there is. You don't like to see a 'crazy doctor', but you are here and you would like to do something, but you don't know what. Your parents brought you here, made you come. Well, you can make them get out of the office. In fact, we both can—come on, let's tell them to go on out." At this point the parents were unobtrusively given a dismissal signal, to which they readily responded, to the boy's immediate, almost startled, satisfaction.

The writer then continued, "But you're still mad and so am I, because they ordered me to cure your bed wetting. But they can't give me orders like they give you. But before we fix them for that,"—with a slow, elaborate, attention-compelling, pointing gesture—"look at those puppies right there. I like the brown one best, but I suppose you like the black-and-white one, because its front paws are white. If you are very careful, you can pet mine, too. I like puppies, don't you?"

Here the child, taken completely by surprise, readily developed a somnambulistic trance, walked over and went through the motions of petting two puppies, one more than the other. When finally he looked up at the writer, the statement was made to him, "I'm glad you're not mad at me any more and I don't think that you or I have to tell your parents anything. In fact, maybe it would serve them just right for the way they brought you here if you waited until the school year was almost over.

But one thing certain, you can just bet that after you've had a dry bed for a month, they will get you a puppy just about like little Spotty there, even if you never say a word to them about it. They just got to. Now close your eyes, take a deep breath, sleep deeply, and wake up awful hungry."

The child did as instructed and was dismissed in care of his parents, who had been given instructions privately.

Two weeks later he was used as a demonstration subject for a group of physicians. No therapy was done.

During the last month of the school year, the boy each morning dramatically crossed off the current calendar day.

Toward the last few days of the month he remarked cryptically to his mother, "You better get ready."

On the thirty-first day his mother told him there was a surprise for him. His reply was, "It better be black-and-white." At that moment his father came in with a puppy. In the boy's excited pleasure, he forgot to ask questions.

Eighteen months later, the boy's bed was still continuously dry.

REPORT NO. 6

One final case concerns a sixteen-year old high school girl, whose thumb-sucking was the bane of her parents, her teachers, her schoolmates, the school bus driver, in fact, the special abhorrence of everybody who came in contact with her.

After much effort on their part, the soliciting of the aid of the entire neighborhood, the intervention (as in the preceding case) by public prayer in church, the forcing of her to wear a sign declaring her to be a thumb-sucker, it was finally decided in desperation by the parents to consult, as a last and shameful resort, a psychiatrist.

The parents' first statement to the writer was to express the hope that therapy of their daughter would be based primarily upon religion. As matters progressed, a promise was extracted from them that after the girl became the writer's patient, for a whole month neither parent would interfere with therapy, no matter what happened, nor would a single word or look of admonition be offered.

The girl came unwillingly to the office with her parents. She was nursing her thumb noisily. Her parents were dismissed from the office and the door closed. As the writer turned to face the

girl, she removed her thumb sufficiently to declare her dislike of "nut doctors."

She was told in reply, "And I don't like the way your parents ordered me to cure your thumb-sucking. Ordering me, huh! It's your thumb and your mouth and why in hell can't you suck it if you want to? Ordering me to cure you. Huh! The only thing I'm interested in is why, when you want to be aggressive about thumb-sucking, you don't really get aggressive instead of piddling around like a baby that doesn't know how to suck a thumb aggressively."

"What I'd like to do is tell you how to suck your thumb aggressively enough to irk the hell out of your old man and your old lady. If you're interested, I'll tell you—if you aren't, I'll just laugh at you."

The use of the word "hell" arrested her attention completely—she knew that a professional man ought not to use that kind of language to a high school girl who attended church regularly.

Challenging the inadequacy of her aggressiveness, two terms the school psychologist had taught her, commanded her attention still more.

The offer to teach her how to irk her parents, referred to so disrespectfully, elicited even more complete fixation of her attention so that, to all intents and purposes, she was in a hypnotic trance.

Thereupon, in an intent tone of voice, she was told:

"Every night after dinner, just like a clock, your father goes into the living room and reads the newspaper from the front page to the back. Each night when he does that, go in there, sit down beside him, really nurse your thumb good and loud, and irk the hell out of him for the longest twenty minutes he has ever experienced."

"Then go in the sewing room, where your mother sews for one hour every night before she washes dishes. Sit down beside her and and nurse your thumb good and loud and irk the hell out of the old lady for the longest twenty minutes she ever knew."

"Do this every night and do it up good. And on the way to school, figure out carefully just which crummy jerk you dislike most and, every time you meet him, pop your thumb in your mouth and watch him turn his head away. And be ready to pop your thumb back if he turns to look again."

"And think over all your teachers and pick out the one you really dislike and

treat that teacher to a thumb pop every time he or she looks at you. I just hope you can be really aggressive."

After some desultory irrelevant remarks, the girl was dismissed and her parents summoned into the office.

They were reminded of the absolute-ness of their promise and the declaration was made that if they kept their promises faithfully, the girl's thumb-sucking would cease within a month. Both parents affirmed their wholehearted cooperation.

On the way home the girl did not suck her thumb and she was silent the entire trip. The parents were so pleased that they telephoned to report their gratification.

That evening, to the parental horror, the girl obeyed instructions, as they did, all of which they reported unhappily by telephone the next day. They were reminded of their promise and of the writer's statement of the girl's prognosis.

Each night, for the next ten evenings, the girl was faithful in her performance.

Then it began to pall on her. She began to shorten the time, then she began late and quit early, then finally she skipped, and then she forgot!

In less than four weeks the girl had discontinued her thumb-sucking, both at home and elsewhere. She became increasingly interested in the much more legitimate teenage activities of her own group. Her adjustments improved in all regards.

The girl was seen again in a social setting about a year later. She recognized the writer, viewed him thoughtfully for a few minutes and then remarked, "I don't know whether I like you or not, but I am grateful to you."

DISCUSSION AND SUMMARY

One of the most important of all considerations in inducing hypnosis is meeting adequately the patient as a personality and his needs as an individual. Too often the effort is made to fit the patient to an accepted formal technique of suggestion, rather than adapting the technique to the patient in accord with his actual personality situation. In any such adaptation, there is an imperative need to accept and to utilize those psychological states, understandings and attitudes that the patient brings into the situa-

tion. To ignore those factors in favor of some ritual of procedure may and often does delay, impede, limit or even prevent the desired results. The acceptance and utilization of those factors, on the other hand, promotes more rapid trance induction, the development of more profound trance states, the more ready acceptance of therapy and greater ease for the handling of the total therapeutic situation.

Another important consideration is the need to avoid a repetitious belaboring of the obvious. Once the patient and the therapist have a clear understanding of what is to be done, only fatigue is to be expected from further reiteration. The acceptance as an absolute finality of the definition of understandings of what the patient

wants and needs and what is to be done, and then expectantly and confidently awaiting the patient's responses serves more readily to elicit the desired results than repetitious instructions for specific responses. This simplicity of instructions with adequate results is clearly illustrated in the second case report above.

In brief, in each of the above case reports an effort has been made to illustrate the utilization of patient behavior and patient needs as a naturalistic technique of hypnotic trance induction. Also, an effort has been made to demonstrate that the adaptation of hypnotic techniques to the patient and his needs, rather than vice versa, leads readily and easily to effective therapeutic results.

REFERENCES

The following articles by the author of this paper are suggested for further reading:

1. Hypnotic Investigation of Psychosomatic Phenomena: Psychosomatic Interrelationships Studied by Experimental Hypnosis. *Psychosom. Med.*, V, 1, January, 1943, pp. 51-58.
2. (With Richard M. Brickner.) The Development of Aphasia-Like Reactions from Hypnotically Induced Amnesias: Experimental Observations and a Detailed Case Report. *Psychosom. Med.*, V, 1, January, 1943, pp. 59-66.
3. A Controlled Experimental Use of Hypnotic Regression in the Therapy of an Acquired Food Intolerance. *Psychosom. Med.*, V, 1, January, 1943, pp. 67-70.
4. Experimentally Elicited Salivary and Related Responses to Hypnotic Visual Hallucinations Confirmed by Personality Reactions. *Psychosom. Med.*, V, 2, April, 1943, pp. 185-187.
5. The Therapy of a Psychosomatic Headache. *J. Clin. and Exper. Hyp.*, I, 4, October, 1953, pp. 2-6.
6. The Development of an Acute Limited Obsessional Hysterical State in a Normal Hypnotic Subject. *J. Clin. and Exper. Hyp.*, II, 1, January, 1954, pp. 27-41.
7. Special Techniques of Brief Hypnotherapy. *J. Clin. and Exper. Hyp.*, II, 2, April, 1954, pp. 109-129.
8. A Clinical Note on Indirect Hypnotic Therapy. *J. Clin. and Exper. Hyp.*, II, 3, July, 1954, pp. 171-174.

HYPNOTHERAPY OF PSYCHOGENIC HEARING LOSS IN CHILDREN

by Frank Kodman, Jr., Ph.D.,¹ and Frank A. Pattie, Ph.D.²

Some children who are sent to an audiology clinic show a loss of hearing which is diagnosed as of non-organic origin because of discrepancies which are found among the results of different measurements of their auditory behavior.

There are several ways to measure auditory sensitivity: puretone audiometry (air conduction and bone conduction thresholds), speech audiometry (speech perception thresholds and speech discrimination) and the psychogalvanic skin response (PGSR, in which a conditioned skin response is set up to tonal stimuli). In Figure 1 we present an audiogram of a typical case of this kind and point out the discrepancies among these measurements. N.M., a male of nine years, had difficulty in hearing speech at home and at school. There is in each ear a puretone loss by both air and bone conduction, and the loss is greater in the higher frequencies. If in this case only these two tests had been made, the audiogram would have been interpreted as showing both a "perceptive loss" (due to cochlear or retrocochlear impairment) and a "conduction loss" (due to impairment of the outer or middle ear). However, PGSR audiometry at the frequencies of 500, 1000 and 2000 cycles and speech audiometry show normal thresholds in each ear, and speech discrimination at 40 decibels above threshold was also normal, being 98 per cent in each ear. The gross

discrepancy between the two sets of measurements can be accounted for by assuming that the hearing mechanism is normal and that the loss is of psychogenic nature. It has been observed in other cases that the loss in the bone conduction test tends to be smaller than the loss in the air conduction test. The cause of this difference is unknown.

It is not the purpose of this paper to state a theory to explain why a psychogenic loss of hearing should show this hearing loss pattern. Discussion of the general problem will be found elsewhere (2, 3, 4).

After clinical tests showed that some children had non-organic losses, the next step was to follow a case for some time. Table 1,A, presents the thresholds for S.I. obtained four times between Nov. 11, 1956, and Jan. 4, 1957. The greater loss is in the right ear, and the child is right-handed. The amount of loss is quite stable through this period except that the loss in the left ear increased on Dec. 10 and 17.

In part B of Table 1, the results of hypnotherapy are shown for S.I. and also a follow-up test, made more than a year later, which shows that the improvement produced by hypnotherapy held. The left ear was at that time more sensitive than normal, there were no further complaints of inability to hear at home or in the classroom and no evidence that any other symptom had taken the place of the hearing difficulty. Normal monaural hearing is adequate for most situations involving communication and accounts for the disappearance of the hearing complaint. No explanation is offered for the fact that the right ear, which at

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the beginning of treatment showed much the greater loss, was not restored to normal. The boy's mother states that the initial difficulty in hearing appeared after a separation of the parents in 1954, two years before the boy was seen in the clinic. A reconciliation had occurred shortly before he came to the clinic, and the home situation is now stable. Observation will be continued.

In hypnotic session, the subject was put into a light trance by means of visual fixation and suggestions of relaxation, heaviness of limbs, drowsiness, fatigue, and closure of the eyelids. The word "hypnosis" was not used. While the subject's eyes were closed, these

suggestions were given: (1) that he might think that there was something wrong with his ears but actually nothing might be wrong, (2) that his trouble might come from not listening well, and that listening was an important part of hearing and understanding, (3) that in future he would hear much better and also listen better. No "challenges" were given except that he would find it either difficult or impossible to open his eyes until he was told that he could. The duration of each therapy session was about 30 minutes.

The suggestions given were inspired by the work of Hurst (1) on hysterical deafness during the first world war.

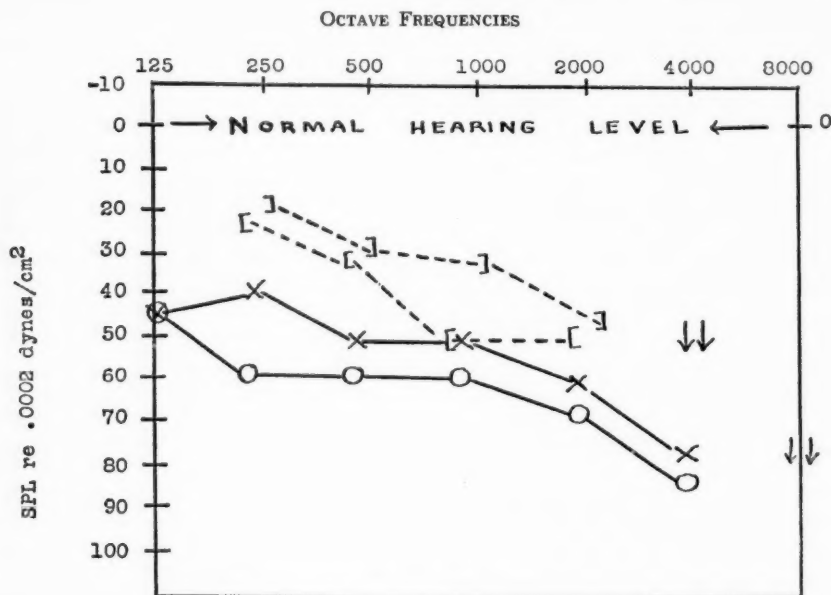


FIGURE 1. A TYPICAL CASE OF NON-ORGANIC HEARING LOSS. SUBJECT N.M., AGE 9, APRIL 12, 1957.

Legend: Air Conduction
Right ear: O
Left ear: X

Bone Conduction
Right ear:]
Left ear: [

Speech Thresholds
Right ear: Normal
Left ear: Normal

PGSR Thresholds
Right ear: Normal
Left ear: Normal

Speech Discrimination
Right ear: 98%
Left ear: 98%

The arrows mean that the loss was greater than could be measured with the audiometer.

Hearing is, he said, "an active process, and in order that sounds be heard the individual must listen." The cases treated by Hurst were very severe, the loss being total in many of them. He was able to restore hearing by persuading the patients to listen intently and by teaching them "that listening was just as active a process as moving and required a conscious effort on their part until it became automatic once more." He mentions a case of deafness rapidly cured by psychotherapy, which developed in a soldier when he, the only Englishman in a German prison, stopped paying attention to the unintelligible speech around him and in time ceased to hear it at all.

Subject K.T., in Table 2, showed excellent recovery from a bilateral loss after four sessions of hypnotherapy of the kind described above. Part A of the Table shows measurements made

before therapy and four weeks after the last therapy session. In Part B the gradual improvement which occurred may be followed. The "pre" tests were made before the child was hypnotized and the "post" tests were made a few minutes after the hypnotherapy session. After the four sessions, there was no evidence that any other symptom had been substituted and no further complaint of inability to hear. This child was right handed.

A third case, J.N., is shown in Table 3. Here the left ear was normal by puretone, speech, and PGSR audiometry, while the right ear showed a severe puretone loss. After four hypnotherapy sessions, the right ear returned to normal. There was gradual improvement during the therapy period of several weeks. Again the side on which the loss occurred is that of the dominant hand.

TABLE 1. SUBJECT S.I., MALE, AGE 11. HEARING LOSS MEASURED BY PURETONE AUDIOMETRY.

A. Before Therapy								
Dates	Ear	Frequencies						
		125	250	500	1000	2000	4000	8000
11-26-56	Right	65	80	85	85	85	85	70
	Left	25	20	20	30	55	40	35
12-3-56	Right	65+	75	85	90	95	85	80
	Left	20	20	20	20	20	20	10
12-10-56	Right	65+	75	90	100+	100	100	80+
	Left	65	55	60	60	65	65	60
12-17-56	Right	60	80	90	100	100	100	80
	Left	55	50	50	75	70	65	55
1-4-57	Right	65+	80+	85	95	80	85	80
	Left	25	25	35	40	25	20	15
B. After Therapy								
2-8-57	Right	65	65	40	55	55	65	70
	Left	15	10	0	-10	-5	-10	0
Follow-up								
3-26-58	Right	45	50	55	55	50	60	55
	Left	0	-5	-5	-10	-5	-5	0

TABLE 2. SUBJECT K.T., FEMALE, AGE 9. BILATERAL LOSS. PURETONE THRESHOLDS, PRE- AND POST-THERAPY.

A.		Mean Thresholds 250-4000 cycles	Speech Thresholds	Speech Discrimination
Dates	Ear			
11-14-57	Right	49 db	10 db	98%
Pre-therapy	Left	49 db	10 db	94%
1-30-58	Right	11 db	Normal	98%
Post-therapy	Left	4 db	Normal	98%

B.								
Therapy Sessions	Ear	125	250	500	1000	2000	4000	8000
11-14-57	Pre Rt.	50	50	50	50	50	45	50
	Pre Lt.	50	50	45	45	50	55	80
	Post Rt.	35	35	30	35	25	25	25
	Post Lt.	40	40	35	40	35	40	60
12-19-57	Pre Rt.	45	40	50	45	40	40	50
	Pre Lt.	25	25	35	35	35	30	40
	Post Rt.	25	25	30	25	20	20	30
	Post Lt.	15	20	20	20	20	20	25
12-26-57	Pre Rt.	10	10	10	15	0	0	15
	Pre Lt.	10	10	10	10	10	10	30
	Post Rt.	15	5	10	5	0	5	15
	Post Lt.	10	10	10	10	10	10	25
1-2-58	Pre Rt.	10	10	10	10	5	0	20
	Pre Lt.	5	10	10	5	5	5	30
	Post Rt.	10	5	5	0	0	0	10
	Post Lt.	5	5	0	0	0	0	10

TABLE 3. SUBJECT J.N., FEMALE, AGE 9. MONAURAL LOSS.

Date	Ear	Frequencies						
		125	250	500	1000	2000	4000	8000
1-14-57	Right	65+	75	85	100+	100+	100+	80+
Pre-therapy	Left	10	0	0	0	0	0	0
12-26-57	Right	5	0	5	0	0	0	5
Post-therapy	Left	5	0	0	0	0	0	0

A fourth case, K.X., Table 4, showed very little improvement after five hypnotherapy periods at weekly intervals, and this slight improvement was not held from one session to the next. We believed that this girl, whose behavior departed more from the normal than

that of any of the other children treated, needed psychiatric attention. After six months of psychotherapy with a psychiatrist, she was recalled for testing, which showed that the left ear was normal and the right ear (on the side of the dominant hand) still had a mod-

TABLE 4. SUBJECT K.X., FEMALE, AGE 13. BILATERAL LOSS. THRESHOLDS PRE- AND POST-HYPNOTHERAPY AND POST-PSYCHOTHERAPY.

Date	Ear	Frequencies						
		125	250	500	1000	2000	4000	8000
1-15-57	Right	35	30	20	60	55	50	50
Pre-therapy	Left	25	20	45	35	30	30	35
5-10-57	Right	30	40	50	45	50	35	55
Hypnotherapy	Left	15	15	5	35	20	35	35
1-27-58	Right	15	20	20	20	30	35	35
Psychotherapy	Left	0	0	0	5	5	5	40

erate loss. In this case hypnotherapy was not successful.

SUMMARY

Clinical hearing tests were made of a small sample of children who showed non-organic hearing losses. Despite the fact that their ability to hear was essentially normal, they complained of inability to hear in certain situations in the home and in the classroom. To investigate this phenomenon, periodic laboratory measurements were made of their hearing before and after hypnotherapy. The results indicate that quantitative improvement was brought about by hypnotherapy in every case

except one. Symptom substitution was not demonstrated and the hearing behavior improved as desired.

The authors feel that hypnotherapy can be an effective clinical treatment for this type of abnormal behavior, which is believed to be essentially psychogenic in origin. The clinician should make use of quantitative hearing tests rather than relying on subjective reports in diagnosing his cases and in evaluating therapy.

Further observations will be continued on these children with special reference to personality characteristics, social behavior and auditory sensitivity.

REFERENCES

1. Hurst, Arthur. *Medical Diseases of War*, 3d ed. Baltimore, Williams & Wilkins, 1943.
2. Juers, A. L. Puretone threshold and hearing for speech—diagnostic significance of inconsistencies. *Laryngoscope*, 1956, 66, 402-409.
3. Kodman, F. Psychogenic hearing loss in children. Paper presented at the International Council on Exceptional Children at Kansas City, Mo., Apr. 9, 1958.
4. Myklebust, H. R. *Auditory Disorders in Children*. New York, Grune & Stratton, 1954.

SEX, TRANSFERENCE, AND SUSCEPTIBILITY TO HYPNOSIS

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In the course of a recent investigation of the role of femininity in the determination of hypnotic susceptibility (17) we have been led to use an experimental design which has allowed us to obtain directly and simultaneously data on the influence of both the sex of subjects and of the sex of hypnotists upon hypnotic susceptibility. These data constitute the basis of the present report.

Largely as a matter of course, past investigators have studied the possible relation of such individual characteristics as age, intelligence, and sex to suggestibility and particularly to susceptibility to hypnosis.² Among these, sex has been of additional interest because of the orthodox psychoanalytic position that hypnosis, as a transference phenomenon, has an erotic basis. A number of past investigations of the effects of sex upon suggestibility and hypnotic susceptibility have been partly aimed at verifying this hypothesis. Such a verification is not just a matter of academic interest, but has definite practical implications. If the hypothesis is valid, transference manipulation becomes a very important feature of effective trance induction and utilization,

as Kline (11), Watkins (14), and Weitzenhoffer (15) have indicated. In addition, as one of the authors has pointed out (15), if transference plays a major role in hypnosis, some rather critical issues arise in the use of hypnosis in psychotherapy. For these reasons the present report will be centered about the transference theory of hypnosis, and we shall delve at some length into the discussion which will follow upon the question of how satisfactory this type of investigation is for throwing light upon the part transference may play in hypnosis.

From the very beginnings of hypnotism and going back to its precursor, mesmerism, opinions have been divided with regard to the influence of the subject's sex upon susceptibility to hypnosis or to magnetic influence. Among lay individuals and amateur hypnotists there seems to have been a prevalent belief that women were more susceptible than men, a belief partly shared by a number of influential as well as less well known professional hypnotists. Perhaps this view arose from the fact that the majority of subjects and patients who were magnetized or hypnotized seem to have been women. Be that as it may, one of the first and earliest quantitative reports on this question was made privately to Beaunis (2) by Liébeault around the last quarter of the 19th century. Liébeault reported data showing a very small difference in susceptibility favoring women over men and concluded that this difference was too small to warrant any conclusion other than that no sex effect was present. A somewhat later and more extensive report of Schmidkuntz (13) fully supports this conclusion. Since then many more investigations of this question have been

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²Although many persons use "suggestibility" and "hypnotic susceptibility" interchangeably, we make the following distinction: *Suggestibility* is an individual's responsiveness, i.e., his capacity for responding to suggestions. *Hypnotic susceptibility*, or susceptibility, is a person's capacity for developing the state of hypnosis. It is measured by the maximum depth or degree of hypnosis he can attain on a given trial under specified conditions and measured on a given scale. There is a relationship between suggestibility and susceptibility, but the two have not as yet been shown to be identical, hence synonymous.

reported. These have been reviewed rather extensively in previous works (9, 16) so we will limit ourselves here to a very brief summary of the findings. First, it should be remarked that only about half of these reports dealt directly with susceptibility to hypnosis, the remainder being concerned with waking suggestibility. However, since there is a close relationship between the kind of waking suggestibility which was studied and hypnotic susceptibility, the results of the second group of studies do bear indirectly upon the question under examination. The consensus is that women are slightly more suggestible and susceptible than men, but that the difference is not statistically significant (five per cent level of confidence).

Turning our attention to studies of the influence of the sex of the experimenter upon suggestibility, there is only one investigation, reported by Eysenck (4), who concludes that the sex of the suggester has no influence upon the waking suggestibility of either men or women.³ No experimental data are available with regard to hypnotic susceptibility, although if we note the apparent success of two well-known women therapists and experimenters and one female stage hypnotist it would appear that women can be as successful as men in hypnotizing subjects of either sex.

METHOD

Apparatus

The induction of hypnosis was performed in a small sound-proof room containing a comfortable arm chair for the subject, a small typing table and a chair for the experimenter. A small bright metal disk the size of a nickel

and attached to a small piece of white posterboard at the center of two concentric circles drawn in India ink was suspended from one of the walls and used as target for visual fixation during the induction of hypnosis. The room was illuminated in such a way that most of the light fell upon the typing table which was used by the experimenter. The illumination was kept at a level just sufficient to allow the experimenter to read comfortably. Other equipment in the room included a 1/5th second stop watch and a microphone resting on the typing table in plain view of the subject. The seating arrangement was such that the experimenter sat somewhat forward and to the side of the subject at about three or four feet distance.

The experimental room was entered by way of a small adjoining room. A loudspeaker-microphone arrangement and a one-way window provided one-way communication between these two rooms. An observer sat in the adjoining room during all hypnotic sessions. It might be added that the only function of the observer was to provide a witness in the event that any questions arose at a later date with regard to the nature of the experiment.

Subjects

A total of 200 subjects (100 men and 100 women) was obtained from the University of Michigan campus on a volunteer basis by direct appeal to classes and notices placed on bulletin boards. This sample was almost entirely made up of undergraduate students, with a few graduates, special students, and secretaries. The total sample drew from all segments of undergraduate college population, as can be seen from the following breakdown:

Freshmen, 33.5%; Sophomores, 34%;
Juniors, 20%; Seniors, 10.5%;
Graduates, 1%; "Special," 0.5%;
Secretaries, 0.5%

³Hull (9) has also reported data from a study of the suggestibility of men and women in which the experimenter was a woman. Comparison of the data thus obtained with those reported by male experimenters supports this conclusion.

With regard to age, the subjects ranged from 17 to 34 years, with 76 per cent of the sample falling between 17 and 21. The mean age was 19.6, with a median at 19.1. The age distributions for the male and female sub-samples were found to be nearly identical.

Procedures

Depth of hypnosis was ascertained by using the technique described by Friedlander and Sarbin (8). With the exception of three minor changes, hypnosis was induced by the procedure which they also describe. However, we used a dimly illuminated room instead of a dark one, a small bright metal object was employed for visual fixation in place of the small red light they describe, and at the conclusion of the experiment, prior to dehypnotizing, additional posthypnotic suggestions were given to the subjects to prevent possible undesirable after-effects.

Two hypnotists (the authors), one of each sex, were employed. Each tested 50 men and 50 women. Prior to the actual experiment, a number of trial sessions were undertaken to match the two experimenters' methods of handling the subjects and inducing hypnosis.

Approximately one week prior to testing the hypnotic susceptibility of the subjects they were given a battery of personality tests, which will not be discussed here as they are not relevant to the present topic. At that time a specific appointment was made for the

hypnotic session. At the appointed time each subject reported to a room close to the experimental room and was met there by one of the experimenters who then conducted him to the sound-proof room, asking him to be seated. After calling his attention to the observer in the adjoining room and very briefly stating his function, the experimenter filled in a brief record sheet with a few vital statistics obtained from the subject by questioning. Following this, the subject was asked to sit comfortably with his feet flat on the floor, hands on his lap. The induction of hypnosis was then begun.

At the termination of the session each subject was asked to fill out a short questionnaire again not relevant to the present report. He was asked not to discuss the experiment with persons yet to be tested, and he was cautioned against serving as a hypnotic subject for others until the entire experiment was concluded, since he might be required to take further part in it.

RESULTS

Hypnotic Susceptibility and Subject Sex

As has been previously reported, the distribution of hypnotic susceptibility to hypnosis was found to be markedly skewed. This was true for pooled samples as well as when the subjects were separated in terms of their sex or that of the experimenters. Table 1 summarizes some pertinent statistics.

TABLE 1. MEANS, MEDIANS, AND SEMI-INTERQUARTILE DEVIATIONS OF HYPNOTIC SUSCEPTIBILITY

	Male Hypnotist		Female Hypnotist		Total Male Sample	Total Female Sample	Total Sample
	Male Subjects	Female Subjects	Male Subjects	Female Subjects			
N	50	50	50	50	100	100	200
Mean	4.28	4.16	4.88	5.84	4.22	5.36	4.79
Median	3.50	3.10	3.50	4.93	3.17	4.36	3.67
Q	3.3	3.0	3.83	4.18	3.62	4.14	3.67

Examining this table we see that, when the sex of the hypnotist is not taken into account, women are somewhat more susceptible than men. If the hypnotist's sex is taken into consideration we find hardly any difference between male and female subjects hypnotized by the male hypnotist, the former being slightly more susceptible. Again, we find women having a slight advantage over men when the hypnotist is a female. It remains to be seen how significant these differences are.

There is no reason to believe that hypnotic susceptibility is normally distributed and that the observed skewness is an artifact. In any event, it is doubtful that we are dealing here with an interval scale, and consequently, some form of nonparametric test of significance is indicated. A number of tests are available. We chose to divide the subjects into three categories on the basis of their susceptibility scores: a "High" group with scores of 10 or more; a "Medium" group with scores no less than 6 and no more than 9; and a "Low" group with scores of 5 or less. This particular partitioning was the result of several considerations. First, we are concerned with the question of whether sex has any effect upon who becomes hypnotized and who does not. Since the answer to this question is presumably important for psychoanalytic theory, we should insure that our susceptible and non-susceptible subjects have a close correspondence to those individuals Freud would presumably have classified as susceptible and non-susceptible. It is our belief that the High and Low categories are most representative of these two groups of individuals respectively. A second consideration which guided us is the fact, to be discussed later, that from one point of view the Medium group is a rather ambiguous one which it seems best to separate. Finally, theory (15, 16) suggests that there are at least three basically different processes

acting singly as well as jointly at the bottom of the response to hypnotic suggestions. According to the theory, the range of depth of hypnosis individuals may attain depends largely upon the particular quantitative combination of these processes present at a given instant. The above division is one which is consistent with one of the possible theoretical divisions of hypnotic depth. Other breakdowns are possible on theoretical and other grounds; however, they do not appear to have any real advantages over the above one, and in some cases they lead to either unnecessary complications or have definite disadvantages.

The above led to the construction of a set of 3x2 tables to which a X^2 (chi square) test was applied. These tables and the results of the statistical analysis will be found in Tables 2, 3, and 4:

TABLE 2. DIFFERENCE IN SUSCEPTIBILITY OF MALE AND FEMALE SUBJECTS—
MALE HYPNOTIST

	Male	Female	
High	6	11	N = 100
Medium ..	10	7	$X^2 = 2.06$
Low	34	32	df = 2

.25 > P > .15 (one-tail test)

TABLE 3. DIFFERENCE IN SUSCEPTIBILITY OF MALE AND FEMALE SUBJECTS—
FEMALE HYPNOTIST

	Male	Female	
High	7	13	N = 100
Medium ..	6	8	$X^2 = 3.06$
Low	37	29	df = 2

.15 > P > .10 (one-tail test)

TABLE 4. DIFFERENCE IN SUSCEPTIBILITY OF MALE AND FEMALE SUBJECTS—
TOTAL SAMPLE

	Male	Female	
High	13	24	N = 100
Medium ..	16	15	$X^2 = 4.06$
Low	71	61	df = 2

.10 > P > .05 (one-tail test)

In each case we used a one-tail test. As can be seen, none of the X^2 's is significant at the 5% point; hence, we may conclude that women were not significantly different from men in this investigation with regard to hypnotic susceptibility.

Hypnotic Susceptibility and Sex of the Hypnotist

Using the same partitioning of hypnotic susceptibility as before, the contingency tables shown in Tables 5, 6, and 7 were obtained. As may be seen

TABLE 5. DIFFERENCE IN SUSCEPTIBILITY OF MALE SUBJECTS AS A FUNCTION OF THE SEX OF THE HYPNOTIST

	Hypnotist		
	Male	Female	
High	6	7	N = 100 $X^2 = 1.20$ df = 2
Medium ..	10	6	
Low	34	37	

.35 > P > .25 (one-tail test)

TABLE 6. DIFFERENCE IN SUSCEPTIBILITY OF FEMALE SUBJECTS AS A FUNCTION OF THE SEX OF THE HYPNOTIST

	Hypnotist		
	Male	Female	
High	11	13	N = 100 $X^2 = .36$ df = 2
Medium ..	7	8	
Low	32	29	

.45 > P > .40 (one-tail test)

TABLE 7. DIFFERENCE IN SUSCEPTIBILITY OF FEMALE AND MALE SUBJECTS AS A FUNCTION OF THE SEX OF THE HYPNOTIST

	Hypnotist		
	Male	Female	
High	17	20	N = 200 $X^2 = .54$ df = 2
Medium ..	17	14	
Low	66	66	

.40 > P > .35 (one-tail test)

from the values of X^2 which were obtained, the one-tail test that subjects are more susceptible to hypnotists of the opposite sex again fails to show significance at the 5% point.

DISCUSSION

It may have been felt by some readers that we should have used a test of greater power than the X^2 test. Others may feel that perhaps a one-tail test is too severe a test. It may be remarked first that with N's of 100 and 200 this test is much better than one might otherwise assume, and quite adequate for our present purpose. Secondly, partly out of curiosity and partly because of certain theoretical considerations we need not take up at this time, we subsequently examined what would have resulted had we utilized other methods of analyzing the data aimed at maximizing the detection of any differences in performance between the comparison groups. The results showed that had we proceeded thus, instead of as just described, we still would have had to report no statistically significant differences.

Some readers may have noted that we made no attempt to control such factors as age or intelligence in spite of the fact that these are known to influence suggestibility. Previously reported data (9, 16) have shown that these two factors probably have only a small influence and can be neglected in cases where the age and intelligence ranges are small and, in the case of age, when the individuals concerned are at least 16 years old. We expected that we would meet these conditions and that in planning the experiment we could disregard the possible influence of these two factors. Insofar as age is concerned, our data show that our assumption was justified. Furthermore, the age distribution for the various subsamples turned out to be essentially identical. With regard to intelligence, unfortunately we have no information since it was not feasible to obtain intelligence measures from our subjects.

The agreement of our data with previous findings in regard to the near ab-

sence of a sex difference in hypnotic susceptibility is, perhaps, worth more than a passing mention because although our investigation and earlier studies agree that such differences as have been observed are not statistically significant there is also remarkable agreement that a small difference is present such as to show women as being somewhat more suggestible. As Hull (9) pointed out, it would be dangerous to consider such small differences as have been observed in any single investigation as being due to anything else but chance. But when such differences occur repeatedly in the same direction and of the same order of magnitude, the likelihood that this is a chance effect becomes appreciably decreased and one can hardly deny its reality. On this basis, it seems to us that although our study does not, alone, show a statistically significant effect of sex on hypnotic susceptibility, in conjunction with past reports, it must be considered as supporting the general overall conclusion that *women are probably slightly more susceptible to hypnosis than men*. Such a difference, it might be noted in passing, need not be due to a direct relation between biological sex and hypnotic susceptibility, but it might arise indirectly through the existence of, on the one hand, a relationship between susceptibility and some particular characteristic of the individual, and on the other hand, a relationship between this characteristic and sex. For example, women are said to be superior to men in verbal ability and in general intellectual ability (1). We know that higher intelligence is related to higher susceptibility, but we do not know what specific aspects, if any, are involved. Should verbal ability, for instance, be such a common factor, it would lead women as a whole to score somewhat higher than men in general. It is suggestive that it has also been reported

that girls and women average higher intelligence scores than boys or men (1).

A difference as small as the one we have been discussing is admittedly of no practical importance. For all intents and purposes there is no difference. On the other hand, it is this absence of a sex effect which has been interpreted by a number of previous investigators as invalidating the Freudian theory of hypnosis. It does not seem to us that this is an entirely justified conclusion. First, one might alternatively infer, as we have done, that if hypnosis involves erotic elements in a fundamental manner, the results reported in this and earlier studies may simply indicate that these elements are manifesting themselves in a more subtle way than through the direct influence of the biological sex of the subject or of the hypnotist. It is worth noting that although Freud believed that becoming hypnotized should be equated to "falling in love," he also emphasized that it was falling in love *with the directly sexual tendencies inhibited in their aim* (5). Speaking more specifically, he also asserted (6) that there is a masochistic element of submission at the basis of hypnosis. Perhaps then it is not entirely reasonable to interpret Freud as saying or even implying that gross sex effects are always to be found in hypnosis. If anything, his statement would seem to lean much more in the direction that, in general, hypnosis is a rather indirectly derived expression of sex, and that gross, direct sexual manifestations are to be expected only in deviant situations. The subject-hypnotist interaction takes place in a highly socialized setting in which sex roles and taboos imposed by the cultural matrix upon the participants may be expected to exert a strong influence. Nor can one ignore the influence of the roles which the participants are taking in this interaction or which they perceive others to have. Such influences may well

supersede and mask any direct effect of biological sex if there be any. The interpretations and elaborations of Freud's views on hypnosis by such men as Schilder (12) and Ferenczi (7) seem to us to show a clear recognition on their part of this alternative. But even disregarding these possibilities there are aspects of the problem on hand which require, as we shall see in a moment, that one approach any general conclusion with regard to the place transference holds in hypnosis with circumspection when dealing directly with sex data.

As a start we need to ask just what sort of objective evidence might Freud have had when he formulated his theory of hypnosis. Do hypnotized individuals ever exhibit such obvious clear-cut behavior that any chance observer, knowing nothing of the antecedents, would interpret it as that of a person either "falling in love" or "in love"? Or is the evidence always of a more subtle kind, such as to require analytical perspicacity and acumen before it may be interpreted as "falling in love"? Unfortunately, Freud's writings are of little help here. But evidence that allows us to answer the first question affirmatively can be found in the literature. One source of descriptive material is a report, originally secret, made by the French Commission on Mesmerism (3). An even better source is a remarkable essay written by Janet (10) which fully supports Freud's contention.⁴ We do not know, of course, that Freud had direct access to such evidence, but we may suspect that he did. In any event we may assume that he was cognizant of observations such as those which Janet and

others reported and that he was voicing an opinion based on more than purely theoretical considerations or on evidence derived from the interpretation of fantasy material, transference manifestations, and the like. Accepting this for the time being leads to the next question. When does a "hypnotized" individual show such obvious manifestations of falling in love? Experience tells us that this is certainly not an invariable occurrence to be seen every time a person is hypnotized. A careful reading of Freud's writings strongly suggests that when he speaks of "hypnosis" he has in mind someone who is in a deep classical somnambulistic state such as is described in the early literature on hypnotism. Janet's writings leave no doubt that his subjects who showed the kind of overt behavior we are talking about were those who were capable of attaining this state. Furthermore, it is perhaps significant that some of the behavior Freud felt was characteristic of hypnosis is much more descriptive of it at the time the trance is utilized than during induction or shortly after. There is little doubt that Freud intended his hypothesis to be of general applicability to all suggestion situations, but there is some question whether the generalization of his theory might not have been based upon an unwarranted extrapolation from the facts. There is no evidence that he ever actually observed or knew of clear-cut transference manifestations, such as we are describing, in cases other than deep classical somnambulism, and there is a strong possibility that he assumed that what was true in the latter instance must also hold true for the lesser depths.

Should the above be correct, the problem of the relationship of transference and hypnosis acquires a totally new character which has implications for both theory and research. It may be that, as Freud inferred, transference

⁴ It is not, perhaps, without significance that having been quick to seize upon the extremely close resemblance between his subject's behavior and that of falling in love, Janet emphatically asserted that in spite of appearance this definitely was not "l'amour."

does underlie all suggested effects whether in the waking or hypnotic state, but that clear-cut, gross erotic manifestations do not appear until very deep trance states are induced. The influence of sex at lesser depths might then take on much more subtle forms as already suggested, and direct manipulation of sex might be relatively ineffectual until deep hypnosis is attained. On the other hand, Freud may be partially right, believing that transference is an intrinsic part of deep hypnosis, but he may have erred in assuming that this also holds for the lesser depths. A multi-dimensional theory of hypnosis, such as has recently been proposed (16) does suggest that this sort of situation could easily exist. Alternatively, one could look at this from a position such as Kline's (11) and see "deep hypnosis" as a different kind from "medium" or "light" hypnosis. Presumably, Freud would be speaking of the former in the writings to which we have referred. Whatever may be the case, the results are the same. All other things being equal, if transference is primarily or entirely associated with deep hypnosis similar to classical somnambulism, then any study of the influence of sex upon hypnotic susceptibility and suggestibility must insure that the subject sample contains an adequate number of individuals known to be capable of developing this condition. This is a basic requirement that neither the present investigation nor earlier ones have met satisfactorily, and it is not possible to conclude that their results have satisfactorily eliminated the possibility that hypnosis and transference are intimately related, at least at some stage of the process.

This question of comparable sampling comes up in another way. Our and previous studies have made use of essentially normal individuals. From reading Janet and Freud, to mention only these two, it seems fairly clear that most, perhaps all, of their subjects

were mental patients suffering, for the most part, from "hysteria."⁵ If one accepts the possibility that hypnosis is multidimensional, or that there are several kinds of hypnoses, this observation opens up new ways of looking at the present and past failures to find support for Freud's contention. Perhaps "hysterics" are specifically prone to develop this form of hypnosis. Or perhaps in Janet's and Freud's cases both the subject-hypnotist relationship and the relationship of patient to therapist may have been responsible for hypnosis developing strongly along the transference axis when otherwise it would have done so either minimally or not at all. This effect might be particularly strong if transference was already developing or was well established at the time hypnosis was induced.

Another element which must be taken into consideration in the present evaluation is the degree to which the subjects were allowed to interact with the experimenter within the framework of hypnosis. Presumably the development of transference is, all other things being equal, a function of the intensity and amount of interaction between patient and therapist. If the notion of transference can be taken out of the context of therapy (which, incidentally, Freud felt should not be done) and introduced into that of hypnosis, it is reasonable to assume that a similar rule would also hold here. There is considerable evidence in the older reports that ample opportunity for interaction in and out of hypnosis

⁵ There are, of course, numerous other points of mismatching, many of which are probably trivial. One which possibly should be called to attention is the fact that Freud's and Janet's patients probably represent as a whole an older age group than the subjects which have been used in the more recent investigations. It is conceivable that a sex differential might exist among individuals, say 25 years of age or older, but not among those 21 years or younger.

between subjects and hypnotist had been allowed. This is in definite contrast to many of the more recent investigations, particularly our own. In the latter, each subject had one trance-inducing session lasting not more than 14 minutes; and in addition, the experiment was so structured that insofar as the hypnotists were concerned, the only major variable which might affect transference was the fact that one experimenter was a woman and the other a man. This situation, then, is very much in contrast to one in which attempts are made to manipulate the transference, in which the subject is "trained," in which the trance is not only induced but extensively utilized, or finally, in which many sessions afford and promote considerable interaction between subject and hypnotist. If it is possible for hypnosis to exist with and without transference, then it is reasonable to expect that the second situation would be much more prone to give rise to hypnosis showing a transference character. These contrasting situations are rather good descriptions of the differences in at least Janet's work and our own. That Janet should have reported rather marked transference manifestations and we did not is therefore not particularly surprising. Of course, we are speculating. But as long as there is a possibility that there are such differences between the earlier and more recent investigations one cannot positively conclude that Freud's hypothesis has been refuted or that it is totally unfounded.

Thus far it has been assumed in our discussion that hypnosis is in some phase or other either pure transference or a combination of the latter and of other phenomena woven into a single entity. There are still other ways in which transference could play an important, even crucial part in hypnosis while not being an intrinsic element of it. The two could be interacting states but also independent with regard to

origin and mechanism of action. Hypnosis is perhaps contingent upon the presence of transference. Or perhaps, although the presence of the latter is fortuitous, it is nevertheless quite influential in determining the character of the hypnotic response, even to the extent of having a synergic action with regard to induction. Still another alternative is that hypnosis creates a condition which is highly favorable to the appearance of transference phenomena. Here as before, these considerations may apply only to deep hypnosis and may not be true of lighter states. Whatever the case may be, it should be clear from these remarks that the existence of transference in close association with hypnosis need not necessarily have any effect on susceptibility, although it might have considerable influence upon the subject's subsequent behavior in both hypnosis and the waking state.

Finally, one should mention that Freud's idea with regard to the role of transference in hypnosis may have been based more on the behavior of subjects subsequent to being dehypnotized than upon their behavior in hypnosis itself. This notion cannot be derived from Freud's writings but arises mainly out of Janet's account to which we referred earlier. Here we find that much of the subject's characteristic behavior is exhibited in the waking state following various hypnotic experiences. Just what this signifies is not entirely clear, except that perhaps, as was proposed earlier, hypnosis does create a condition which is extremely favorable to the development of a transference which persists into the waking state after dehypnotization.

Although the above discussion has centered around the question of the effects of the subject's sex, much of it applies equally well to the topic of the influence of the hypnotist's sex. In particular, it should be emphasized that just as the subject's sex may man-

ifest itself in more subtle ways than through a gross sex difference, so may this be true in the case of the hypnotist's sex. Ferenczi's notion of "paternal" and "maternal" hypnosis, for instance, may be quite to the point here. In this respect it is a weakness of the present investigation that only one hypnotist of each sex was involved, and that opportunities for interaction were very limited. Had it been possible to obtain and use a larger number of male and female hypnotists, a very

different picture might have resulted, particularly had greater freedom of interaction between hypnotists and subjects been allowed.

Whatever the case may be, it seems obvious that checking the transference theory of hypnosis is a much more difficult problem than may have been originally conceived and that a study of the direct influence of sex upon hypnotic susceptibility is but a small and rather unsatisfactory test of the theory in most instances.

REFERENCES

1. Anastasi, A., and Foley, J. P., Jr. *Differential Psychology*. New York: The Macmillan Company, 1949.
2. Beaunis, H. *Le Somnambulisme Provoqué, Études Physiologiques et Psychologiques*. Paris: Baillière, 1886.
3. Binet, A., and Féré, C. *Animal Magnetism*. New York: Appleton, 1888.
4. Eysenck, H. J. Suggestibility and Hysteria. *J. of Neurol. and Psychiat.*, 1943, 6, 22-31.
5. Freud, S. *Group Psychology and the Analysis of the Ego*. New York: Boni and Liveright, 1922.
6. ——— "Three Contributions to the Theory of Sex," in *The Basic Writings of Sigmund Freud* (Translated by A. A. Brill). New York: Modern Library.
7. Ferenczi, S. Introjektion und Uebertragung. *J. Psychoanal. Psychopath. Forsch.*, 1909, 1, 422-458.
8. Friedlander, J. W., and Sarbin, T. R. The Depth of Hypnosis. *J. Abnorm. Soc. Psychol.*, 1938, 33, 281-294.
9. Hull, C. L. *Hypnosis and Suggestibility. An Experimental Approach*. New York: Appleton-Century, 1933.
10. Janet, P. *Névroses et Idées Fixes*. Paris: F. Alcan, 1932.
11. Kline, M. V. Toward a Theoretical Understanding of the Nature of Resistance to the Induction of Hypnosis and Depth Hypnosis. *J. Clin. Exper. Hypnosis*, 1953, 1, 32-41.
12. Schilder, P. *The Nature of Hypnosis*. New York: International Universities Press, 1956.
13. Schmidkuntz, H. von. Zur Statistik des Hypnotismus. *Wiener Med. Wnschr.*, 1894, 24, 1022-1024.
14. Watkins, J. G. Trance and Transference. *J. Clin. Exper. Hypnosis*, 1954, 2, 284-290.
15. Weitzenhoffer, A. M. *General Techniques of Hypnotism*. New York: Grune and Stratton, 1957.
16. ——— *Hypnotism. An Objective Study in Suggestibility*. New York: John Wiley and Sons, 1953.
17. ——— Weitzenhoffer, G. B. Femininity and Susceptibility to Hypnosis. In press.

PEDIATRIC HYPNOTHERAPY¹

by Milton H. Erickson, M.D., Phoenix, Arizona

As an introduction to what constitutes "Pediatric Hypnotherapy," the question may well be asked, What is the difference between hypnotherapy on the small-sized child, on the medium-sized child, on the large-sized child, and on that older, taller child we encounter so frequently in our offices? Therapy of any kind properly parallels the physical examination in adaptation to the patient as a reality object possessed of needs requiring recognition and definition. And any therapy used should always be in accordance with the needs of the patient, whatever they may be, and not based in any way upon arbitrary classifications.

Psychologically oriented forms of therapy properly employed need always be in relationship to the patient's capacity to receive and to understand. Pediatric hypnotherapy is no more than hypnotherapy directed to the child with full cognizance of the fact that the child is a small and a young person. As such, he views the world and its events in a different way than does the adult, and his experiential understandings are limited and quite different from those of the adult. Therefore, not the therapy but only the manner of administering it differs.

In this connection and of the utmost importance in the use of hypnosis is the fact that there governs the child, as a growing, developing organism, an ever-present motivation to seek for more and better understandings of all that is about him. This is one of the things that adults so often lose, and which facilitates so greatly the use of hypnosis with all patients. Children

have a driving need to learn and to discover and every stimulus constitutes, for them, a possible opportunity to respond in some new way. Since the hypnotic trance may be defined, for purposes of conceptualization, as a state of increased awareness and responsiveness to ideas, hypnosis offers to the child a new and ready area of exploration. The limited experiential background of the child, the hunger for new experiences and the openness to new learnings render the child a good hypnotic subject. He is willing to receive ideas, he enjoys responding to them, and there is only the need of presenting those ideas in a manner comprehensible to him. This, as in all other forms of psychotherapy for all types of patients, is a crucial consideration.

But such presentation needs to be in accord with the dignity of the patient's experiential background and life experience—there should be no talking down to or over the head of the patient. There needs to be the simple presentation of an earnest, sincere idea by one person to another for the purpose of achieving a common understanding and a common goal and purpose. The mother croons a lullaby to her nursing infant, not to give it an understanding of the words but to convey a pleasing sense of sound and rhythm in association with pleasing physical sensations for both of them and for the achievement of a common goal and purpose. The child that is cuddled properly, handled in an adequate way, placed at the breast in the right way with the proper "hypnotic touch" is not so likely to develop colic. By "hypnotic touch" is meant no more than that type of touch that serves to stimulate in the

¹ Given before the Academy of Psychosomatic Medicine, Chicago, Illinois, October 17, 1957.

child an expectation of something pleasurable, and that is continuously stimulating in a pleasing way.

It is the continuity of the experience that is of importance—it is not just a single touch or pat or caress, but a continuity of stimulation that allows the child, however short its span of attention, to give a continued response to the stimulus. So it is in hypnosis, whether with adults or children, but especially is it so with children. There is a need for a continuum of response-eliciting stimuli directed toward a common purpose.

The child at the breast needs the lullaby continued and the nipple between its lips, even after it has satisfied its hunger and is falling asleep. It needs those continuing stimuli until the physiological processes of sleep and digestion serve to replace them. Similarly in child hypnosis there is a need for a continuity of stimulation, either from without or from within, or a combination of both. Hypnosis, whether for adults or children, should derive from a willing utilization of the simple, good, and pleasing stimuli that serve in everyday life to elicit normal behavior pleasing to all concerned.

Another consideration in using hypnosis therapeutically with children is the general character of the approach to the child. No matter what the age of the child may be, there should never be any threat to the child as a functioning unit of society. Adult physical strength, intellectual strength, force of authority, and weight of prestige are all so immeasurably greater to the child than his own attributes that any undue use constitutes a threat to his adequacy as an individual. And since hypnosis is dependent upon a cooperation in a common purpose, a feeling of goodness and adequacy is desirable for both participants. That sense of goodness and adequacy is not to be based upon a sense of superiority of one's own attributes, but upon a respect for

the self as an individual dealing rightfully with another individual, with each contributing his full share to a joint activity of significance to both. There is a need, because of the child's lack of experiential background and understanding, to work primarily with and not on the child. The adult can better comprehend passive participation.

Nor can there be a linguistic condescension to the child. Comprehension of language always precedes verbal facility. There should not be a talking down to the child, but rather a utilization of language, concepts, ideas and word pictures meaningful to the child in terms of his own learnings. To speak in "baby talk" is usually an insult and a mockery, since any intelligent child knows that the adult possesses vocal facility. One does not imitate the accent of an adult, but one can use a word or phrase respectfully abstracted from the speech of the other. Thus one can speak of "dem bums", but cannot rightfully say "Toity-Foist Street." So it is with infantile and childish vocalization.

Similarly, respect must be given to the child's ideational comprehension with no effort to derogate or minimize the child's capacity to understand. It is better to expect too great a comprehension than to offend by implying a deficiency. For example, the surgeon who told four-year old Kristi, "Now that didn't hurt at all, did it?" was told with bitter, scornful contempt, "You're poopid! It did, too, hurt, but I didn't mind it." She wanted understanding and recognition, not a falsification, however well-intended, of a reality comprehensible to her. For one to tell a child, "Now this won't hurt one bit" is courting disaster. The child has his own ideas and needs to have them respected, but the child is readily open to any modification of his ideas intelligently presented to him. Thus, to tell the child, "Now this *could* hurt a lot,

but I think that maybe you can stop a lot of the hurt, or maybe all of it," constitutes an intelligent appraisal of reality for the child and offers an acceptable idea of a reasonable and possible responsive participation of an inviting character.

The child must be respected as a thinking, feeling creature, possessed of a capacity to formulate ideas and understandings and able to integrate them into his own total of experiential comprehension, but he must do this in accord with the actual functioning processes he himself possesses. No adult can do this for him, and any approach to the child must be made with awareness of this fact.

To illustrate how one approaches a child and utilizes hypnotic techniques, the following personal example may be cited:

Three-year-old Robert fell down the back stairs, split his lip and knocked an upper tooth back into the maxilla. He was bleeding profusely and screaming loudly with both pain and fright. His mother and I went to his aid. A single glance at him lying on the ground, screaming, his mouth bleeding profusely and blood spattered on the pavement confirmed the existence of an emergency requiring prompt and adequate measures.

No effort was made to pick him up. Instead, as he paused for breath for fresh screaming, he was told quickly, simply, sympathetically and emphatically, "That hurts awful, Robert. That hurts terrible."

Right then, without any doubt in his mind, my son knew that I knew what I was talking about. He could agree with me and he knew that I was agreeing completely with him. Therefore he could listen respectfully to me, because I had demonstrated that I understood the situation fully. *In pediatric hypnotherapy, there is no more important problem than so speaking to the patient that he can agree with you and respect your intelligent grasp of the situation as judged by him in terms of his own understandings.*

Then I told Robert, "And it will keep right on hurting."

In this simple statement, I named his own fear, confirmed his own judgment

of the situation, demonstrated my good intelligent grasp of the entire matter and my entire agreement with him, since right then, he could foresee only a lifetime of anguish and pain for himself.

The next step for him and for me was to declare, as he took another breath, "And you really wish it would stop hurting." Again, we were in full agreement and he was ratified and even encouraged in this wish, and it was his wish, deriving entirely from within him and constituting his own urgent need.

With the situation so defined, I could then offer a suggestion with some certainty of its acceptance. This suggestion was, "Maybe it will stop hurting in a little while, in just a minute or two."

This was a suggestion in full accord with his own needs and wishes and, because it was qualified by a "maybe it will," it was not in contradiction to his own understandings of the situation. Thus he could accept the idea and initiate his responses to it.

As he did this, a shift was made to another important matter, important to him as a suffering person, and important in the total psychological significance of the entire occurrence—a shift that in itself was important as a primary measure in changing and altering the situation.

Too often, in hypnotherapy, or any utilization of hypnosis, there is a tendency to overemphasize the obvious and to reaffirm unnecessarily already accepted suggestions, instead of creating an expectancy situation, permitting the development of desired responses. Every pugilist knows the disadvantage of overtraining; every salesman knows the folly of over-selling. The same human hazards exist in the application of hypnotic techniques.

The next procedure with Robert was a recognition of the meaning of the injury to Robert himself—pain, loss of blood, body damage, a loss of the wholeness of his normal narcissistic self-esteem, of his sense of physical goodness so vital in human living.

Robert knew that he hurt, that he was a damaged person; he could see his blood upon the pavement, taste it in his mouth and see it on his hands. And yet, like all other human beings, he, too, could desire narcissistic distinction in his misfortune, along with the desire even more for narcissistic comfort. Nobody wants a picayune headache, but since a headache must be endured, let it be so colossal

sal that only the sufferer could endure it. Human pride is so curiously good and comforting! Therefore, Robert's attention was doubly directed to two vital issues of comprehensible importance to him by the simple statements, "That's an awful lot of blood on the pavement. Is it good, red, strong blood? Look carefully, Mother, and see. I think it is, but I want you to be sure."

Thus, there was an open and unafraid recognition in another way of values important to Robert. He needed to know that his misfortune was catastrophic in the eyes of others as well as his own, and he needed tangible proof thereof that he himself could appreciate. Therefore, by declaring it to be "an awful lot of blood," Robert could again recognize the intelligent and competent appraisal of this situation in accord with his own actually unformulated, but nevertheless real, needs.

Then the question about the goodness, redness and strongness of the blood came into play psychologically in meeting the personality meaningfulness of the accident to Robert. Certainly, in a situation where one feels seriously damaged, there is an overwhelming need for a compensatory feeling of satisfying goodness. Accordingly, his mother and I examined the blood on the pavement and we both expressed the opinion that it was good, red, strong blood, thereby reassuring him not on an emotionally comforting basis only, but upon the basis of an instructional, to him, examination of reality.

However, we qualified that favorable opinion by stating that it would be better if we were to examine the blood by looking at it against the white background of the bathroom sink. By this time Robert had ceased crying and his pain and fright were no longer dominant factors. Instead, he was interested and absorbed in the important problem of the quality of his blood.

His mother picked him up and carried him to the bathroom, where water was poured over his face to see if the blood "mixed properly with water" and gave it a "proper pink color." Then the redness was carefully checked and reconfirmed, following which the "pinkness" was reconfirmed by washing him adequately, to Robert's intense satisfaction, since his blood was good, red and strong and made water rightly pink.

Then came the question of whether or not his mouth was "bleeding right" and

"swelling right". Close inspection, to Robert's complete satisfaction and relief, again disclosed that all developments were good and right and indicative of his essential and pleasing soundness in every way.

Next came the question of suturing his lip. Since this could easily evoke a negative response, it was broached in a negative fashion to him, thereby precluding an initial negation by him, and at the same time raising a new and important issue. This was done by stating regretfully that, while he would have to have stitches taken in his lip, it was most doubtful if he could have as many stitches as he could count. In fact, it looked as if he could not even have ten stitches and he could count to twenty. Regret was expressed that he could not have seventeen stitches, like Betty Alice, or twelve, like Allan, but comfort was offered in the statement that he would have more stitches than Bert, or Lance, or Carol, his siblings. Thus the entire situation became transformed into one in which he could share with his older siblings a common experience with a comforting sense of equality and even superiority.

In this way he was enabled to face the question of surgery without fear or anxiety, but with hope of high accomplishment in cooperation with the surgeon and imbued with the desire to do well the task assigned him, namely, to "be sure to count the stitches." In this manner, no reassurances were needed, nor was there any need to offer further suggestions regarding freedom from pain.

Only seven stitches were required, to Robert's disappointment, but the surgeon pointed out that the suture material was of a newer and better kind than any that his siblings had ever had, and that the scar would be an unusual "W" shape, like the letter of his Daddy's college. Thus the fewness of the stitches was well compensated.

The question may well be asked at what point hypnosis was employed. Actually, hypnosis began with the first statement to him and became apparent when he gave his full and undivided interested and pleased attention to each of the succeeding events that constituted the medical handling of his problem.

At no time was he given a false statement, nor was he forcibly reassured in a manner contradictory to his understandings. A community of understandings was first established with him and then, one by one, items of vital interest to him in his situation were thoughtfully considered and decided, either to his satisfaction or sufficiently agreeably to merit his acceptance. His role in the entire situation was that of an interested participant, and adequate response was made to each idea suggested.

Another example that may be briefly cited is that of the belligerent two-year-old in her crib, who wished no dealings with anybody and was prepared to fight it out on that line for the rest of her life. She had a favorite toy, a rabbit. As she was approached and her jutting jaw and aggressive manner was noted, the challenge was offered, "I don't think your rabbit knows how to sleep."

"Wabbit tan too," and the battle was on.

"I don't think your rabbit can lie down with its head on the pillow, if you show it how."

"Wabbit tan too! See!"

"And put its legs and arms down nice and straight like yours?"

"Tan too! See!"

"And close its eyes and take a deep breath and go to sleep and stay asleep?"

"Wabbit sweep!", a declaration made with pleased finality, and Kristi and her rabbit continued to sleep in a satisfactory trance state.

The entire technique, in this instance, was nothing more than that of meeting the child at her own level and as an individual, and presenting ideas to which she could actively respond and thus participate in achieving a common goal acceptable to her and to her adult collaborator.

This type of technique has been employed many times, for the single reason that the primary task in pediatric hypnosis is the meeting of the child's needs of the moment. Those are what the child can comprehend and once that need has been satisfied, there is the opportunity for the therapist to discharge in turn his own obligations.

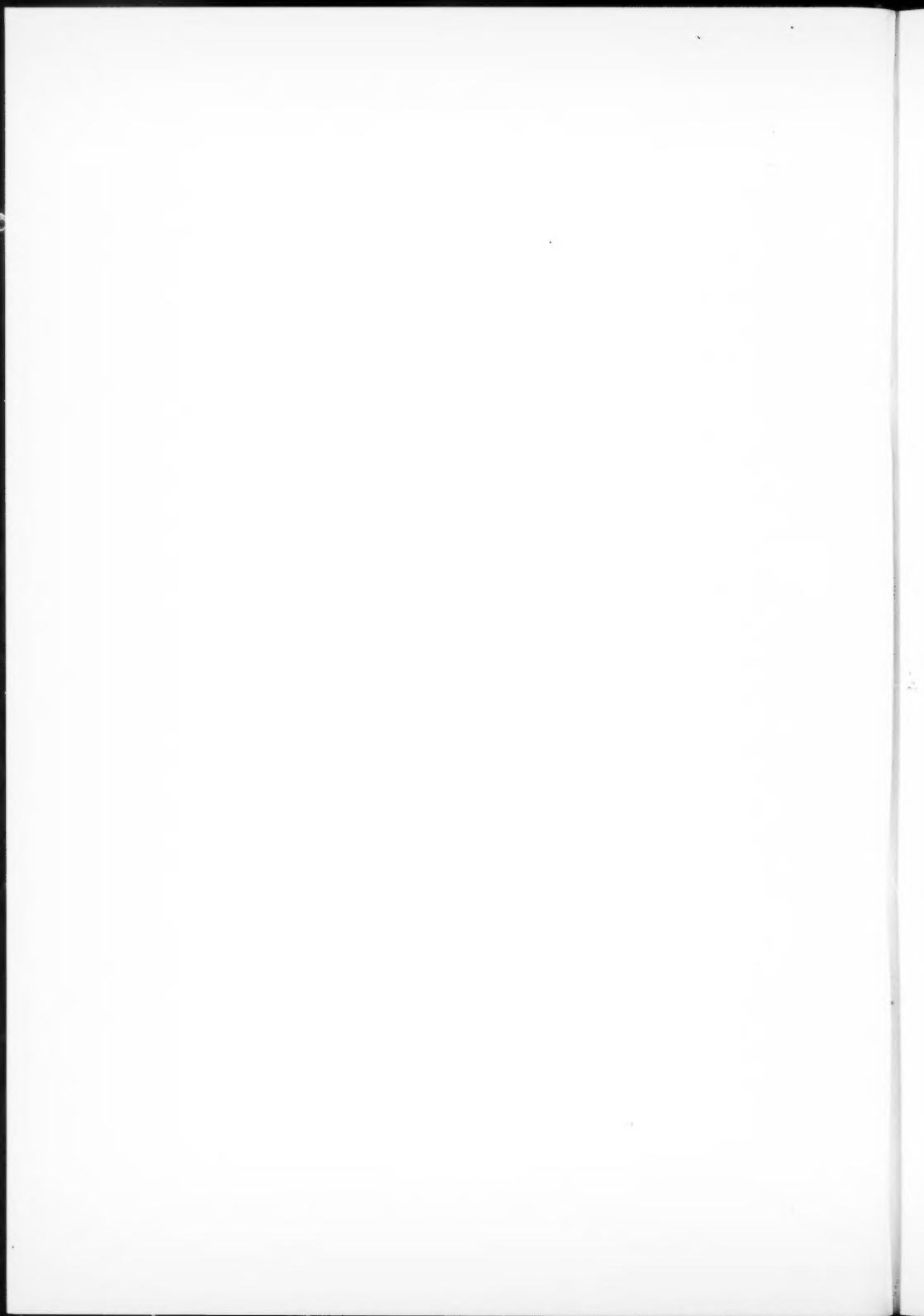
To conclude, these two case reports have been presented in considerable detail to illustrate the case of the naturalistic hypnotic approach to children. There is seldom, if ever, a need for a formalized or ritualistic technique. The eidetic imagery of the child, his readiness, eagerness and actual need for new learnings, his desire to understand and to share in the activities of the world about him, and the opportunities offered by "pretend" and imitation games all serve to enable the child to accept and to respond competently and well to hypnotic suggestions.

In brief, a good hypnotic technique is one that offers to the patient, whether child or adult, the opportunity to have his needs of the moment met adequately, the opportunity to respond to stimuli and to ideas, and also the opportunity to experience the satisfactions of new learnings and achievements.

REFERENCES

The following two articles are suggested for additional reading:

1. Solovey de Melechnin, Galina. Concerning Some Points about the Nature of Hypnosis, *J. Clin. and Exper. Hyp.*, IV, 2, April 1956, pp. 83-88.
2. ———. Conduct Problems in Children and Hypnosis, *Diseases of the Nerv. Syst.*, XVI, 8, August 1955, pp. 3-7.



BIOGRAPHICAL NOTES

on officers of the American Society of Clinical Hypnosis
and the Academy of Applied Psychology in Dentistry

EDITOR'S NOTE

Often in scientific societies the general membership lacks adequate information concerning the qualifications of those entrusted with the leadership. Especially is this regrettable in a society where the membership is derived from different but interallied disciplines. In recognition of this need of having such information available, this journal will publish brief biographical accounts, first of the officers, then of the editorial staff, and then quite probably of contributors.

ATTERBURY, ROBERT A.

1011 Lake Street.....Oak Park, Illinois

Education: D.D.S., University of Illinois

Positions held:

Chief, Oral Surgery, West Lake Hospital
Assistant Professor, Oral Surgery, University of Illinois Research and
Educational Hospitals
Attending Oral Surgeon, Bethany and MacNeal Hospitals

Memberships:

President: The Chicago Academy of Dental Psychosomatics
President: The University of Illinois Dental Alumni Association
Vice-President: Academy of Applied Psychology in Dentistry
Treasurer: West Suburban Branch, Chicago Dental Society
Member: Chicago Society of Oral Surgeons
American Society of Oral Surgeons
International Society of Anesthesiologists
American Dental Society of Anesthesiology

Publications: Several articles in scientific journals

ERICKSON, MILTON H.

32 West Cypress.....Phoenix, Arizona

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Faculty (formerly) Wayne State University College of Medicine; Graduate School, Wayne State University; Michigan State University
Director of Psychiatric Research and Training, Wayne County General Hospital
Visiting Instructor, Roosevelt University, 1958
Staff: Seminars on Hypnosis

Memberships:

President: American Society of Clinical Hypnosis, 1957-58
 Fellow: American Psychiatric Association
 American Psychological Association
 Society for Clinical and Experimental Hypnosis
 Academy of Psychosomatic Medicine

Honorary Member: British Society of Medical Hypnotists

Author: Numerous articles in medical and psychological journals

Co-Author: (with Linn Cooper, M.D.), Book: "Time Distortion in Hypnosis"

GELBERD, M. B.

7200 Exchange Avenue.....Chicago, Illinois

Education: D.D.S., Loyola University Dental School, 1938

Positions held:

4 years, U. S. Navy, World War II, ship and shore-based activities,
 leaving service as Lieutenant-Commander

In general practice of dentistry, with particular interest in the greatly
 handicapped and cerebral palsied child

Memberships:

Vice-President: The Academy of Applied Psychology in Dentistry

Member: Chicago Academy of Dental Psychosomatics

Author: One article on hypnosis

HERON, WILLIAM T.

University Station.....Minneapolis 14, Minnesota

Education: Ph.D., University of Chicago, 1924

Positions held:

U. S. Army, 35th Division, World War I
 Faculty (formerly), University of Kansas, University of Texas
 Professor of Psychology, University of Minnesota

Memberships:

Fellow: American Psychological Association

Treasurer: American Society of Clinical Hypnosis

Author:

Numerous articles in scientific psychological journals

Book: "Clinical Applications of Suggestion and Hypnosis"

HERSHMAN, SEYMOUR

One North Crawford Avenue.....Chicago 24, Illinois

Education: M.D., Chicago Medical School, 1941

Positions held:

Assistant Chief of Surgery, 104th Evacuation Hospital, U. S. Army,
1942-1945

Attending Staff, Garfield Park Community Hospital, since 1942

Veterans Administration Research Assistant in Hypnosis, 1956

Visiting Instructor, Roosevelt University, 1958

Staff: Seminars on Hypnosis

Memberships:

Fellow: Academy of Psychosomatic Medicine

Secretary: American Society of Clinical Hypnosis

Member: American Medical Association
American Academy of General Practice
American Committee on Maternal Welfare
Society for Clinical and Experimental Hypnosis

Honorary Member: British Society of Medical Hypnotists

Author: Several articles in scientific journals on hypnosis

MOSS, AARON A.

1150 Park Avenue.....Plainfield, New Jersey

Education: D.D.S., New York University College of Dentistry, 1933

Positions held:

Member: Dental Staffs, Muhlenberg Hospital, Plainfield, New Jersey;
All Souls Hospital, Morristown, New JerseyAttending and Head of Pathology, Dental Staff, Cumberland
Hospital, Brooklyn, New YorkChief of Dental Staff, Matheny Cerebral Palsy Institute,
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Instructor, American Society of Psychosomatic Dentistry

Memberships:

President: The Academy of Applied Psychology in Dentistry

Vice-President: The American Society of Clinical Hypnosis

Former President
and Founder: The American Society of Hypnodontics, The New
Jersey Society of Hypnosis in DentistryVice-President
and Founder: New Jersey Component, American Dental Society of
Anesthesiology

Fellow: American Society of General Anesthesia in Dentistry

BIOGRAPHICAL NOTES

- Member: American Dental Association
 American Society of Dentistry for Children
 American Academy of Dental Medicine
 Alpha Omega Dental Fraternity
- Author: Textbook, "Hypnodontics, or Hypnosis in Dentistry"
 Numerous articles on anesthesia, child management,
 hypnodontics and oral surgery
- Producer of film: "Operative Hypnodontics," available from American
 Dental Association Film Library, Chicago

NORMAN, STANLEY K.

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Education: D.D.S., Ohio State University

Positions held:

Dental Officer, Army of United States, World War II
 Major, Air Force Reserve
 Staff member, Ft. Hamilton Hospital, Hamilton, Ohio
 Vice-President, Hamilton Community Council
 Chairman, Family and Child Welfare Committee

Memberships:

Treasurer: The Academy of Applied Psychology in Dentistry
 President: Cincinnati Chapter, The Academy of Applied Psychology
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 Secretary: The Ohio Valley Hypnodontic Society

STARR, GEORGE J.

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Education: D.D.S.

Positions held:

Editor, Toronto Alumni Alpha Omega Bulletin

Memberships:

Academy of Applied Psychology in Dentistry (Secretary)
 Ontario Academy of Applied Psychology in Dentistry, Executive Sec-
 retary
 Canadian Dental Association
 Ontario Dental Association
 Associate Member: Chicago Dental Society

CONSTITUTION AND BY-LAWS OF THE AMERICAN SOCIETY OF CLINICAL HYPNOSIS

CONSTITUTION

ARTICLE 1

The Society shall be known as The American Society of Clinical Hypnosis.

ARTICLE 2

The object of The Society shall be to bring together professional people in the medical, dental, and psychological fields using Hypnosis, and to set up standards for training. It shall cooperate with all scientific disciplines in professional and public relationships in regard to the use of Hypnosis and it shall stimulate research and publication in the field.

ARTICLE 3

Any qualified physician, dentist, or psychologist with the degree of Ph.D. or its equivalent interested in the objectives of The Society shall be eligible for election to membership. The qualifications, privileges, and dues of the members are set forth in the By-Laws.

ARTICLE 4

Section 1: The officers of The Society shall be: the President, the President Elect, the Vice-President, the Secretary, the Treasurer, and the Past President, after his term in office has expired. These officers shall be elected by the voting membership every second year. Together with one representative from each Section and the Editor of the Journal, they shall constitute the Executive Committee, the term of office of which shall be two years. The outgoing President shall retain a seat on the Executive Committee for the two years following his term.

Section 2: The President shall preside at all business and scientific meetings of The Society. In the event of his absence, his duties shall devolve successively upon the Vice-President, the Secretary, and the Treasurer.

Section 3: The Society shall maintain a quarterly Journal and shall sponsor any other publications as it deems necessary in the promotion of its objectives.

Section 4: The Executive Committee shall be the governing body of The Society. It shall call regular and special meetings. It shall have the power to fill vacancies in the offices until regular elections are held.

Section 5: Three-fourths of the total membership of the Executive Committee shall constitute a quorum, and a majority vote of the members in attendance shall rule.

Section 6: The Executive Committee may appoint an office secretary.

Section 7: The Executive Committee may establish committees as it deems necessary to conduct the affairs of The Society.

Section 8: *The American Journal of Clinical Hypnosis* shall function as the publication of The Society.

ARTICLE 5

Section 1: The Society shall hold at least one meeting each year, at a time and place to be determined by the Executive Committee. At each annual meeting, there shall be a general meeting of the membership at which the officers shall report to The Society and at which any business of The Society shall be transacted, and the presentation of a scientific program as determined by the Program Committee.

ARTICLE 6

Section 1: The Constitution may be amended by a two-thirds affirmative vote of the voting members attending the regular annual meeting or by a mail ballot at the discretion of the Executive Committee.

Section 2: Proposed amendments shall be mailed to the members at least thirty days before the meeting.

Section 3: Amendments may be proposed by the Executive Committee or by petition of one-third of the voting members of The Society.

ARTICLE 7

Section 1: Local, regional, or state Sections may be admitted to The Society when approved by the Executive Committee.

Section 2: They shall elect their own officers and representative to the Executive Committee, collect whatever dues they deem necessary for the support of their local activities, and conduct any business which does not conflict with the policies and purposes of The Society.

Section 3: All affiliated Sections shall have the privilege of reporting activities and making announcements in the Journal subject to approval of the editorial staff.

ARTICLE 8

Section 1: Any action of a member or a Section which may reflect unfavorably on The Society in the opinion of the Executive Committee shall result in disciplinary action as decided by the Executive Committee which may be in the form of warning, suspension, or expulsion of the member or Section. Such disciplinary action shall not prejudice the rights of individual members not concerned in the matter giving rise to the action.

Section 2: Any publications or statements which may be interpreted to be a reflection of the attitude of The Society must be approved by the Executive Committee of The Society before being issued.

BY-LAWS

ARTICLE 1

Section 1: The membership of The Society shall consist of Fellows, Members, and Honorary Members. The dues shall be \$15.00 per annum (including subscription to the *American Journal of Clinical Hypnosis*). Dues are payable in advance. A member whose application has been accepted subsequent to July 1 of any year shall be billed \$7.50 on the following January 1 for his second year's dues, in order to standardize the records.

Section 2: To be eligible for membership, an applicant must have

- a) an M.D., D.D.S., D.M.D., or a Ph.D. or its equivalent in psychology;
- b) as an M.D., D.D.S., or D.M.D., membership in appropriate professional societies is required; as a psychologist, membership in the American Psychological Association is required;
- c) appropriate professional training and experience in clinical or experimental Hypnosis is required.

Section 3: In order to be eligible for Fellowship in The Society, one shall, in addition to member qualifications, have evidenced in the opinion of the Executive Committee exceptional achievement in the use of Hypnosis in the investigative or therapeutic fields including scientific publication.

Elevation to Fellowship shall be made upon the designation and recommendation of the Executive Committee of The Society. The Executive Committee shall periodically indicate which members have be-

come eligible for Fellowship. Members may qualify for Fellow at any time after being a member of ASCH for one year. Appointment to Fellow can be made by direct action of the Executive Committee at any time that all requirements are met.

Section 4: Honorary Members are members filling the requirements of Sections 2 or 3, but residing outside the United States of America or Canada. They are exempted from dues, have no vote, and are not eligible for office. They may subscribe to the *Journal* on the usual subscription basis.

Section 5: All Fellows and Members of The Society may vote or hold elective office or be appointed committee chairmen or committee members.

Section 6: Decisions concerning eligibility for membership shall be made by the Executive Committee. Fulfillment of all requirements mentioned for any class above does not guarantee election to membership if the Executive Committee deems such election not in the best interests of The Society.

Section 7: On failure to pay annual dues, the privileges of membership shall be suspended and membership shall be terminated automatically at the end of one year.

Section 8: As membership in The Society is based upon the inherent right of The Society to take any disciplinary action deemed necessary, in the event of unethical or unprofessional behavior of a member, the Executive Committee may take official action, which may be in the form of warning, suspension, or expulsion from The Society. Appeal of such decision may be made, and the defendant may request a hearing by a special committee appointed for that purpose.

ARTICLE 2

Section 1: The officers shall be elected by the membership at large by a mail ballot of the members. The term of office shall begin on the first day of the annual meeting following the election. Eligible for office shall be Fellows and Members in good standing provided they have belonged to The Society for more than two years.

Section 2: The Executive Committee shall appoint a Committee on Nominations and Elections. This Committee shall select names for each of the offices of President Elect, Vice-President, Secretary, and Treasurer, assisted by the voting members. These names will then be placed on a ballot

for direct voting from the membership for each position to be filled.

These ballots shall then be sent to the members eligible to vote not later than March 1 of the election year. Votes, to be valid, must be returned to the Chairman of the Committee on Nominations and Elections by the date specified on the ballot, which shall be not less than 30 days from the date of mailing.

Section 3: The candidates who receive the largest number of votes for each office shall be declared elected. In the case of a tie vote, the Chairman of the Committee of Nominations and Elections shall decide by lot between the two candidates. This shall be done in the presence of the Executive Committee or of its official delegates.

Section 4: The newly elected officers shall take over the office at a formal ceremony at the time of the annual meeting in the election year. The ballots cast and all pertinent material shall be deposited for record in the offices of the Executive Committee.

Section 5: The Editor of the Journal shall be appointed by the Executive Committee for a term of two years. The Editor shall appoint Associate or Advisory Editors, all of whom shall be members of The Society. Honorary members shall be eligible for appointment as Associate or Advisory Editors.

ARTICLE 3

Section 1: All transactions of The Society shall be recorded.

Section 2: The Executive Committee shall meet on the call of the President or on the request of five of its members.

Section 3: There shall be a Committee on Nominations and Elections. At least two-thirds of its members shall be changed

biennially. As regards this and any other Committee, the Chairman shall be an appointee of the Executive Committee, and he shall select his committee members with the approval of the Executive Committee.

Section 4: There shall be standing Committees as designated by the Executive Committee. These committees shall be subject to change in Chairman and members at the time of election, or, at any time, at the discretion of the Executive Committee.

ARTICLE 4

The accounts of The Society shall be kept by the Treasurer. The Executive Committee shall receive reports at specified intervals and approve budget and expenses. The balance shall be made public to the membership annually in the Treasurer's fiscal report.

The Secretary shall be concerned mainly with the communications of The Society and the maintenance of adequate records.

The Vice-President shall concern himself with all duties of the Executive Committee not allocated explicitly or implicitly to any of the other members. —

The President Elect shall serve as a member of the Executive Committee.

ARTICLE 5

Section 1: Amendments to these By-Laws may be proposed by any member of The Society.

Section 2: The Executive Committee shall submit amendments to the By-Laws to the members by mail ballot, provided that such amendments have been communicated to the membership at least 30 days prior to the vote on the amendment. Such amendments shall be adopted upon a majority vote of the members voting.

LIST OF THE COMPONENT SECTIONS OF
THE AMERICAN SOCIETY OF CLINICAL HYPNOSIS

Akron Society of Clinical Hypnosis
Arizona Society of Clinical Hypnosis
Arkansas Society of Clinical Hypnosis
Ark-La-Tex Society of Clinical Hypnosis
Birmingham Society of Clinical Hypnosis
Boston Academy of Psychosomatics
Chicago Society of Clinical Hypnosis
Cleveland Society of Clinical Hypnosis
Kansas Society of Clinical Hypnosis
Maryland Society of Clinical Hypnosis
Memphis Society of Clinical Hypnosis
Metropolitan New York Society of Clinical Hypnosis
North Carolina Society of Clinical Hypnosis
St. Joseph Valley Society of Clinical Hypnosis
St. Louis Society of Clinical Hypnosis
San Diego Society of Clinical Hypnosis
San Jose Society of Clinical Hypnosis
Southwest Louisiana Society of Clinical Hypnosis
Springfield (Mass.) Society of Clinical Hypnosis
Washington (D. C.) Society of Clinical Hypnosis
Western Pennsylvania Society of Clinical Hypnosis

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AN INTERACTIONAL EXPLANATION OF HYPNOSIS¹

by Jay Haley, M.A., Stanford University and
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The only reasonable excuse for adding another theory of hypnosis to the many which have been proposed is an entirely new approach to the problem. Previous theoreticians have conjectured about the perceptual or physiological nature of hypnotic trance and the result is a literature on hypnosis consisting of conflicting ideas and insoluble paradoxes. The various theoreticians have proposed at least the following descriptions of hypnotic trance. The trance is sleep, but it isn't sleep. It is a conditioned reflex, but it occurs without conditioning. It is a transference relationship involving libidinal and submissive instinctual strivings, but this is because of aggressive and sadistic instinctual strivings. It is a state in which the person is hypersuggestible to another's suggestions, but one where only auto-suggestion is effective since compliance from the subject is required. It is a state of concentrated attention, but it is achieved by dissociation. It is a process of role playing, but the role is subjectively real. It is a neurological change based upon psychological suggestions, but the neurological changes have yet to be measured and the psychological suggestions have yet to be

defined. Finally, there is a trance state which exists separately from trance phenomena, such as catalepsy, hallucinations, and so on, but these phenomena are essential to a true trance state.

One can wonder if a rigorous answer is possible to the question: Is there a state called "trance" which is different from the normal state of being "awake"? The "trance" state is by definition a subjective experience. It can be investigated only if the investigator examines his subjective experiences when supposedly in such a state. This is a most unreliable method of research, particularly when one is dealing with the slippery perceptive experiences of hypnotic trance. Whether or not another person is in a trance state cannot really be known any more than what another person is thinking can be known—or even if he is thinking. We can observe the communicative behavior of a person, but we can only conjecture about his subjective experiences. A rigorous investigation of hypnosis must center on the communicative behavior of hypnotist and trance subject with, at most, careful conjecture about the internal processes which provoke that behavior. The theory, or descriptive explanation, of hypnosis offered here will not add to the current confusion about the trance state but will deal only with the interaction between hypnotist and trance subject.

Although most attempts to be "objective" about psychological processes tend to ignore the most significant problems involved, there is decided merit in analyzing the manifestations of a subjective state instead of making inferences about the state itself. De-

¹ The ideas in this paper represent the combined thinking of the staff of The Project for the Study of Schizophrenic Communication. The staff consists of Gregory Bateson, Jay Haley, John H. Weakland, Don D. Jackson, M.D., and William F. Fry, M.D. The project is financed by the Josiah Macy Jr. Foundation, administered by the Department of Anthropology at Stanford University, and functions at the Veterans Administration Hospital, Palo Alto, California. This paper was given in briefer form at the First Annual Meeting of The American Society of Clinical Hypnosis.

bate about hypnosis has always centered around the question of whether a subject is *really* experiencing a phenomenon or only behaving as if he is. Such a debate is essentially unresolvable. The few crude instruments available, such as the GSR and the EEG, indicate slight physiological changes, but no instrument can tell us whether a subject is really hallucinating or really experiencing an anesthesia. At most we can only poke him with a sharp instrument in the supposedly anesthetized area or amputate a limb, as Esdaile did, and observe his communicative behavior. Our only data are the communications of the subject, the rest is inevitably conjecture. It would seem practical to begin an investigation of hypnosis with an analysis of what can be seen and recorded on film in the hypnotic situation and thereby limit what needs to be inferred from the subject's behavior.

If an investigation centers on the process of communication between a hypnotist and subject, then answerable questions about hypnosis can be posed: Is the communicative behavior of a supposedly hypnotized subject significantly different from the communicative behavior of that person when not hypnotized? What sequences of communication between hypnotist and trance subject produce the communicative behavior characteristic of a person in trance? Answers to these questions will explain what is unique to the hypnotic relationship and differentiates it from all others. To answer such questions a system for describing communicative behavior is needed. An approach to such a system will be offered here with the argument that human interaction can be dissected and labeled and that a particular kind of communication sequence is characteristic of the hypnotic relationship.

ACCEPTED GENERALIZATIONS ABOUT HYPNOSIS

In the literature on hypnosis there is a sufficient repetition of ideas so that a few generalizations can be made about the hypnotic situation which would be agreed upon by most hypnotists. It is now generally accepted that hypnotic trance has something to do with a relationship between the hypnotist and subject. In the past it was assumed that trance was the result of the influence of the planets or merely something happening inside the subject independently of the hypnotist. Currently it is assumed that hypnotic phenomena result from an interpersonal relationship as hypnotist and trance subject communicate with one another by verbal and non-verbal behavior. It is also generally agreed that "trance" involves a focusing of attention. The subject does not while in trance report about activities outside the task defined by the hypnotist and his reports about the hypnotic task are in agreement with the hypnotist's reports. In addition, it is assumed that the relationship between hypnotist and subject is such that the hypnotist initiates what happens in the situation. He initiates a sequence of messages, and the subject responds. The common assumption that the hypnotist must have "prestige" with the subject seems to be an agreement that the subject must accept the hypnotist as the person who will initiate ideas and suggestions. Although the subject may respond to the hypnotist's messages in his own unique way, still by definition he is responding and thereby acknowledging the hypnotist to be the one who has the initiative in the situation. In those instances where the subject decides the task, it is implicitly agreed that the hypnotist is *letting* this happen. It is also accepted that in every induction the hypnotist at some point "challenges" the subject either explicitly or

implicitly to try to do something he has been told he cannot do.

These few generalizations are about all the statements which would be acceptable to a hypnotic investigator. When more specific statements are made, debate and dissension arise. However, there is one further generalization which makes explicit what is implicit in most techniques and theories of trance induction, and some consideration should make it acceptable to most hypnotists. Hypnotic interaction progresses from "voluntary" responses by the subject to "involuntary" responses. "Voluntary" responses are those which hypnotist and subject agree can be deliberately accomplished, such as placing the hands in the lap or looking at a light. "Involuntary" responses are those which hypnotist and subject agree are not volitional, such as a feeling of tiredness, levitating a hand without deliberately lifting it, or manifesting an hallucination. Involuntary responses in general consist of changes at the autonomic level, perceptual changes, and certain motor behavior. The motor aspects of trance are particularly obvious during a challenge when a subject tries to bend an arm and cannot because of the opposition of muscles.

Every trance induction method known to this writer progresses either rapidly or slowly from requests for voluntary responses to requests for involuntary ones. This alternating sequence continues even into the deepest stages of trance. When the sequence occurs rapidly, as in a theatrical induction, the hypnotist quickly asks the subject to sit down, put his hands on his knees, lean his head forward, and so on. Following these requests for voluntary behavior, he states that the subject cannot open his eyes, or move a hand, or bend an arm, or he requests similar involuntary behavior. In a relaxation induction the sequence occurs more slowly as the hypnotist

endlessly repeats phrases about deliberately relaxing the various muscles of the body and follows these suggestions with others suggesting a feeling of tiredness in his body or some other involuntary response. The most typical hypnotic induction, the eye fixation, involves a request that the subject voluntarily assume a certain position and look at a spot or at a light. This is followed by a request for an involuntarily heaviness of the eyelids. A "conversational" trance induction proceeds from requests that the subject think about something, or notice a feeling, or look here and there, to suggestions that require a shift in the subject's perceptions or sensations. The trance state is usually defined as that moment of shift when the subject begins to follow suggestions involuntarily. Either the subject struggles to move a hand and cannot because of an involuntary opposition of muscles, or he reports a perception or feeling which he presumably could not voluntarily produce.

Before dealing with hypnosis in more interactional terms the hypnotic situation can be summarized according to these general statements of agreement. In the hypnotic situation the hypnotist initiates ideas or suggestions which are responded to by the trance subject. The hypnotist persuades the subject to follow voluntarily his suggestions and concentrate upon what he assigns. When this is done, the hypnotist requests involuntary responses from the subject. The progress of the hypnotic interaction progressively defines the relationship as one in which the hypnotist is in control of, or initiating, what happens and the subject is responding more and initiating less.

DEFINING A TYPE OF RELATIONSHIP

As hypnotist and subject, or any two people, interact, they work out what sort of relationship they have with each other. If the relationship stabilizes, the two people work out a mu-

tual agreement about what sort of behavior is to take place between them and therefore what sort of relationship it is. This agreement is achieved "implicitly" by what they say and how they say it as they respond to each other rather than by explicit discussion of what sort of relationship it is. To describe the working out of a particular relationship it is necessary to differentiate it from others and label it.

If one took all the possible kinds of communicative behavior which might be exchanged between two people, it could be roughly classified into behavior which defines a relationship as *symmetrical* and behavior which defines the relationship as *complementary*. A symmetrical relationship is one between two people who exchange the same sort of behavior. Each person initiates action, criticizes the other, offers advice, and so on. This type of relationship tends to be competitive; if one person mentions that he has succeeded in some endeavor, the other person mentions that *he* has succeeded in some equally important endeavor. The people in such a relationship constantly emphasize their equality to, or symmetry with, the other person.

A complementary relationship consists of one person giving and the other receiving rather than the two competing as in a symmetrical relationship. In a complementary relationship the two people are of unequal status, one is in a superior position and the other is in a secondary position. A "superior" position means that the person initiates action and the other follows that action; he offers criticism and the other accepts it, he offers advice and the other assumes he should, and so on. In such a relationship the two people tend to fit together or complement each other.

This simple division of relationships into two types applies to all two-person systems. No relationship between any two people will consistently be of one

type in all circumstances; usually there are areas of the relationship worked out as one type or another. Also a relationship may shift from basically one type to basically another. Such a shift may occur rapidly back and forth or it may consistently tend in one direction. When a child grows up he progressively shifts from a complementary towards a symmetrical relationship with his parents as he becomes an adult.

Each person in a relationship defines the relationship by what he says to the other and the way he qualifies what he says. Although every message interchanged between two people will, in a sense, define the relationship—if only by expressing the idea "this is the kind of relationship where this sort of thing is said,"—still there are certain kinds of messages which make more of an issue of the sort of relationship than other kinds. A professor may lecture and one of his students may ask questions to clarify various points, but then the student may ask a question in such a way that he is implying, "I know as much about this as you do." The professor must then re-define the relationship as complementary—one between teacher and student. The professor does this either by showing that the student doesn't know as much as he does or by indicating that he doesn't appreciate the tone of that question. At certain moments, in response to certain kinds of messages, the type of relationship is put in question. The kind of message that puts the relationship in question will be termed here a "maneuver". In the example cited, the student made a symmetrical maneuver—a maneuver defining the relationship as one between two equals. The professor's reply when he puts the student in his place would be a complementary maneuver—a maneuver designed to define the relationship as complementary. Such maneuvers are constantly being interchanged in any

human relationship and tend to be most often used in an unstable relationship where the two people are groping towards a common definition of their relationship.

Maneuvers, or "relationship messages," tend to put the type of relationship in question and by their nature demand a maneuver in response. If two people, A and B, talk about the weather they may be defining the relationship as neutral and no particular issue is made of what sort of relationship it is. But when one or the other makes a maneuver, the nature of the relationship is immediately an issue. Maneuvers consist of (1) requests, commands, or suggestions, that another person do, say, think, or feel something, and (2) comments on the other person's communicative behavior. Should A ask B to do something, then B is immediately posed the problem of whether this is the sort of relationship where A has the right to make that request. B is also affected by whether the request was made tentatively or apologetically, or whether it was a rude command. Since the relationship is in question, B must either do what A says and accepts A's definition of the relationship, or refuse to do it and thereby counter with a maneuver to define the relationship differently. He may, as a third possibility, do what A says but qualify his doing it with a statement that he is "permitting" A to get by with this and therefore he is doing it but not agreeing with A's definition of the relationship.

As an example, if one employee asks another employee of equal status to empty the wastebasket, this could be interpreted by the other as a maneuver to define the relationship as complementary or one between unequals. If the other raises his eyebrow, this is describable as a counter-maneuver to define the relationship as symmetrical. The first employee may respond to that raised eyebrow by

saying, "Well, I don't mind doing it myself if you don't want to." In this way he indicates that his original request was not a complementary maneuver but really a symmetrical one, since it was something one equal would ask of another equal. The issue was raised because the first employee used that class of message termed here a maneuver—he requested that the other person do something. Similarly if a person comments on another person's behavior, the issue is immediately raised whether this is the sort of relationship where such a comment is appropriate. If one person suggests that another dresses rather sloppily, the counter maneuver may be, "Who the devil are you to tell me how to dress?" Such a comment indicates the relationship is symmetrical rather than complementary.

A complication must be added to this simple schema of relationships. There are times when one person lets another person successfully use a particular kind of maneuver. For example, A may act helpless and force B to take care of him. Ostensibly A is in a secondary position in a complementary relationship since he is being taken care of. Yet he arranged the situation, and therefore he is actually on the superior end of a complementary relationship. In the same way one person may encourage another to do something which implies that they are two equals. If A lets B use symmetrical maneuvers, then A is initiating the behavior and is in a complementary relationship with B. Whenever one person lets, or forces, the other to define the relationship in a certain way, he is at a higher level defining the relationship as complementary.

Therefore a third type of relationship must be added to the other two and will be termed a meta-complementary relationship. The person who establishes a meta-complementary relationship with another is controlling

the maneuvers of the other. He is permitting, or forcing, another person to make maneuvers which define the relationship in a certain way. He may let someone else appear in charge of the behavior in the relationship, but since he is labeling what happens as happening with his permission then he is in the superior position of a meta-complementary relationship.

In summary, relationships can be simply divided into complementary and symmetrical with the type of relationship an ongoing subject of definition between any two people. The type of relationship becomes a particular issue when one of the two peoples makes a maneuver, defined as a request, command, or suggestion that the other person do, say, think, feel, or notice something, or a comment on the other person's behavior. A maneuver provokes a series of maneuvers by both participants until a mutually agreed-upon definition of the relationship is worked out between them. These maneuvers involve not only what is said, but the meta-communication of the two people or the way they qualify what they say to each other. A third type of relationship is proposed, a meta-complementary relationship, to describe that interaction where one person permits or forces the other to use maneuvers which define the relationship in a certain way. The person who acts helpless in order to force someone to take charge of him is actually in charge at a meta-complementary level.

THE HYPNOTIC RELATIONSHIP

With these types of relationship as background, hypnotic interaction can be described as apparently taking place in a complementary relationship. The hypnotist suggests, and the subject follows his suggestions so that each person's communicative behavior is complementary. The act of making a suggestion is a maneuver to define the

relationship as complementary, and the act of following the suggestion is an acceptance of that definition of the relationship.

In hypnotic literature a suggestion is defined as "the presentation of an idea" as if a suggestion is an isolated unit unrelated to the relationship between the two people. Actually the act of making a suggestion and the act of responding to one is a process which has been going on between the two people and will continue. It is a class of messages rather than a single message and is more usefully defined in that way. A "suggestion" is defined here as a maneuver: that class of messages which make an issue of what type of relationship exists between the person who offers and the person who responds to the suggestion. A suggestible person is one who is willing to accept the interpersonal implications of doing what he is told. This idea is stated implicitly in such comments as "He willingly follows suggestions." It is possible to follow suggestions unwillingly, as well as not to follow them at all, but when a person willingly follows suggestions he is accepting a complementary relationship with the person who is telling him what to do. There are several crucial points about the hypnotic interaction which differentiates it from other relationships.

1. It has been said that certain kinds of messages exchanged between two people make an issue of what kind of relationship they have. The hypnotic relationship consists entirely of the interchange of this class of messages. The hypnotist tells the subject what to do with his suggestions and comments on the subject's behavior. There are no other kinds of messages involved; talk about the weather is not interchanged.

2. When the hypnotist tells the subject what to do, he is defining the relationship as complementary. The sub-

ject must either accept this definition by responding and doing what he is told or respond in such a way that he defines the relationship as symmetrical. Some subjects are resistant, and every subject is resistant to some degree, and the central problem in hypnotic induction is overcoming the resistance of the subject. In communications terms "resistance" consists of countermaneuvers by the subject to define the relationship as symmetrical. No person will immediately and completely accept the secondary position in a complementary relationship. The hypnotist must encourage or enforce a complementary relationship by countering the subject's counter-maneuvers. Whereas in ordinary relationships between people both persons may initiate or respond with either symmetrical or complementary maneuvers, in the hypnotic situation the hypnotist concentrates entirely on initiating complementary maneuvers and insisting that the subject respond in agreement with that definition of the relationship. When the subject is "awake," or when the two people are maneuvering differently, the hypnotist may behave symmetrically with a subject, but during the hypnotic relationship his efforts are devoted entirely to defining the relationship as complementary. A complication will be added to this description later, but for the moment let us describe the hypnotist-subject relationship as complementary.

When he meets with particular kinds of resistance, a hypnotist may explicitly put himself in a secondary position with a subject while implicitly taking control at the meta-complementary level. That is, if the subject insists on defining the relationship as symmetrical, the hypnotist may appear to hand control of the relationship over to the subject by saying that he is only guiding the subject into trance and must follow the subject's lead with whatever he wishes to do. Having placed him-

self in the secondary position of a complementary relationship, the hypnotist then proceeds to give the subject suggestions and expect him to follow them, thus defining the relationship as complementary with himself in the superior position. Whenever the hypnotist behaves in a symmetrical or secondary way, it is to take control at the meta-complementary level.

3. When a subject accepts a complementary relationship, whether he likes it or not, it becomes possible for him to misinterpret messages from the environment, from another person, or from inside himself. This statement is conjecture, since it describes the internal processes of an individual, yet such an inference seems supportable on the basis of the subject's communicative behavior. When the hypnotist suggests an hallucination, the subject will misinterpret the messages from the environment which contradict the hallucinatory image. The same is true of bodily sensations, emotions, and memories. The more the subject is unable to counter the meta-complementary maneuvers of the hypnotist, the more trance manifestations he is capable of experiencing. To describe his behavior from an interactional point of view, it is necessary to discuss what the evidence is for "involuntary" behavior.

THE INVOLUNTARY IN TERMS OF BEHAVIOR

An attempt to bring rigor into the investigation of hypnosis requires us to deal with observable behavior rather than to conjecture about the internal processes of a subject. When it is said above that the trance subject experiences involuntary phenomena, this statement is unverifiable. We cannot know whether or not a subject is experiencing an hallucination or various bodily sensations and emotions. For example, when a subject's arm begins to levitate we might say that this is an involuntary phenomenon and there-

fore a manifestation of trance. As a hypnotic subject, we might ourselves experience that hand levitation and feel that the hand was lifting up and we were not lifting it, thus we would subjectively know that this was involuntary. However, as investigators of hypnosis we cannot rely on our subjective experiences. Ideally we should be able to describe the processes of trance induction and trance phenomena while observing a film of hypnotist and subject interacting. Confined to our observations of the film, we could not observe "involuntary" activities by the subject. We could only observe behavior which we *inferred* was involuntary. Our problem is to describe the communicative behavior of a subject at that moment when we draw the inference that he is experiencing an involuntary trance phenomenon.

To describe communicative behavior one must take into account the fact that people not only communicate a message but qualify or label that message to indicate how the message is to be received. A message may be qualified by another which affirms it, or it may be qualified by one which denies it. Thus a person can step on another person's foot and qualify it with a statement that this was accidental or involuntary. Or the person may step on the other person's foot and qualify this message with a "vicious" expression which indicates "I'm doing this on purpose." Thus a qualifying message may either deny or be incongruent with another message, or it may affirm or be congruent with the other message. When we observe a film of two people interacting and we conclude that something one of them does is "involuntary", we draw that conclusion from the *way* the person qualifies what he does. If we see a trance subject levitating an arm and hear him say in a surprised way, "Why, my arm is lifting up," we conclude that he is experiencing an involuntary phenome-

na. Our conclusion is drawn from the fact that the subject is doing something and denying that *he* is doing it. He may make this denial with a verbal comment, with a surprised expression, by the way he lifts the arm, by commenting on it later after he was awake, and so on. He may also say, "Why, my arm is lifting up," and thereby deny that he is lifting it, but say this in an "insincere" tone of voice. That is, he qualifies the arm lifting with two statements: one says "I'm not doing it," the other says, "I'm doing it." When we observe this incongruence between his tone of voice and his statement we conclude that the subject is simulating an arm levitation and that it isn't *really* involuntary. Our conclusion is based on the fact that two incongruences are apparent in the ways he qualifies his messages: (1) He lifts his hand and says he didn't, (2) he says he didn't in a tone of voice which indicates he did. If he should express astonishment that his hand lifted in words, in his tone of voice, and in his postural communication so that all of his messages are congruent with a denial that he is lifting his arm, then we say it is *really* an involuntary movement.

Besides the fact that we detect simulation of hypnotic behavior by noting two incongruences in the ways the subject qualifies some activity, it seems clear that the goal of hypnotic induction from the behavioral point of view is to persuade the subject to deny fully and completely that *he* is carrying out the activity. That is, the hypnotist pushes the subject towards qualifying his behavior with messages congruent with each other and which as a totality deny that the subject is doing what he is doing. When the subject behaves in this way, an observer reports that the subject is experiencing an involuntary phenomenon.

As an illustration, let us suppose that a hypnotist wishes to induce a hallucination in a subject. After a series of

interactional procedures from hand levitation through challenges, the hypnotist suggests that the subject look up at a bare wall and see that painting of an elephant there. He may do this abruptly, or he may suggest that the subject watch the painting develop there and later press for an acknowledgement that the painting is there. The subject can respond in one of several ways. He can look at the wall and say, "There is no painting there." He can say, "Yes, I see the painting," but qualify this statement in such a way, perhaps by his tone of voice, so that he negates his statement. In this way he indicates he is saying this to please the hypnotist. Or the subject can say there is a painting on the wall and qualify this statement congruently with his tone of voice, posture, and a contextual statement such as, "Naturally there's a painting there, so what," or "Our hostess has always liked elephants." This latter kind of behavior would be considered evidence of trance.

Characteristic of a person in trance is (a) a statement which is (b) incongruent with, or denies, some other statement, but which is (c) qualified by all other statements congruently. The subject in trance (a) reports a picture (b) on a bare wall, thus making a statement incongruent with the context, and (c) he affirms his statement that there is a picture on the wall with other verbal messages, his tone of voice, and body movement. As another example, the subject lifts his hand during a hand levitation and indicates that *he* isn't lifting it. This statement, which is incongruent with the lifting hand, is supported or affirmed by the ways he says it. If a subject is experiencing an anesthesia, he responds passively to a poke with a pin, thereby responding incongruently, and he affirms his response with congruent words and tone of voice.

The behavior of a subject in trance is differentiable from the behavior of

the subject awake by this single incongruence. A person in normal discourse may manifest incongruences when he communicates his multiple messages, or all of his messages may be congruent or affirm each other. The single incongruence is characterized of trance behavior. Even though several hypnotic tasks may be assigned a subject simultaneously, each is characterized by a single incongruence.

The single incongruence of trance has another characteristic which differentiates it from incongruences in normal communication. This incongruence consists of a denial that he is responding to the hypnotist. The subject is doing what the hypnotist suggests while denying that he is doing what the hypnotist suggests. If a subject levitates a hand, he qualifies this with a denial that *he* is lifting it. When he does this he is indicating that he is merely reporting an occurrence, he does not qualify the lifting hand with an indication that it is a response to the hypnotist even though at that moment the hypnotist is suggesting that the hand lift. Should the subject act like a person awake and lift the hand while indicating that he is lifting it, he would be acknowledging the hand lifting as a message to the hypnotist. By qualifying the hand lifting with a denial that *he* is doing it, he manifests an incongruence which indicates that he is merely making a report. In the same way the subject merely reports the existence of a painting on the wall instead of indicating that his seeing the painting there is a statement to the hypnotist.

To formalize the behavior of the trance subject, it can be said that any communicative behavior offered by one person to another can be described in terms of four elements: a sender, a message, a receiver, and a context in which the communication takes place.

In other words, any message can be translated into this statement:

"I	am communicating something
(a)	(b)
to you	in this situation."
(c)	(d)

Since communicative behavior is always qualified, any element in this message will be qualified by an affirmation or a denial. In a hypnotic trance, the subject denies these elements and does not affirm them. Trance behavior denying each element can be briefly listed.

(a) Whenever he requests an "involuntary" response, the hypnotist is urging the subject to deny that *he* is responding or communicating something. The first element of the statement above, "I am communicating," is qualified with a denial and therefore changed to "It is just happening."

(b) The hypnotist not only urges the subject to deny that *he* is originating a message, such as an arm levitation, he may also urge the subject to deny that anything is happening, i.e. being communicated. The subject may appear to be unaware that his hand is lifting, thus qualifying the lifting hand with a statement that it isn't lifting. Or he may manifest a similar denial by manifesting amnesia. If he qualifies his behavior with a denial that it happened, then nothing was communicated. He can not only say "I didn't lift my hand," but he can say, "My hand didn't lift," and thereby manifest an incongruence between his statement and his lifting hand. When a subject's tone of voice and body movement is congruent with the statement that he doesn't recall something, or congruent with the absence of a report of some activity during trance, then observers report that he is experiencing amnesia.

(c, d) It is also possible for the subject to deny the final elements in the essential message above. He may in-

dicate that what he is doing is not a communication to the hypnotist in this situation but qualifying, or labeling, the hypnotist as someone else and/or the situation as some other. Hypnotic regression is manifested behaviorally by the subject qualifying his statements as not to the hypnotist but another person (after all if he is regressed he hasn't met the hypnotist yet), perhaps a teacher, and the context as not the present one but perhaps a past schoolroom. When all of his communicative behavior is congruent with one of these incongruent qualifications, then an observer will report that the subject is experiencing regression.

In summary, a subject in trance as well as a person awake exhibits behavior toward another person which is describable as the statement "I am communicating something to you in this situation." The trance subject qualifies one or all the elements of this statement incongruently so that the statement is changed to "It is just happening," or "Nothing happened," or "I am communicating to someone else in some other place and time."

The problem posed by hypnotic induction is this: how does one person influence another to manifest a single incongruence in his communicative behavior so that he denies that *he* is communicating something, that something is being communicated, or that it is being communicated to the hypnotist in this situation? More simply, how is a person influenced to do what he is told and simultaneously deny that he is doing anything?

TRANCE INDUCTION IN TERMS OF BEHAVIOR

When hypnotic trance is seen as an interaction consisting of one person persuading another to do something and deny he is doing it, then it would seem to follow that trance induction must consist of requests for just that behavior from a subject. The hypnotist

must ask the subject to do something and at the same time tell him not to do it. The nature of human communication makes it possible for the subject to satisfy these conflicting demands. He can do what the hypnotist asks, and at the same time qualify this activity with statements denying that he is doing it or that it is being done. Thus he does it, but he doesn't do it.

To simplify the rich and complex interchange which takes place between a hypnotist and subject, let us describe a hand levitation induction. The hypnotist sits down with the subject and tells him to put his hand on the arm of the chair. He then says something like, "I don't want you to move that hand, I just want you to notice the feelings in it." After a while the hypnotist says, "In a moment the hand is going to begin to lift. Lifting, lifting, lifting." If we could divest ourselves of theories and naively observe this interaction between hypnotist and subject, it would be obvious to us that the hypnotist is saying to the subject, "Don't lift your hand," and then he is saying, "Lift your hand." Since our observation is biased by theories of human behavior, we see this behavior in terms of the unconscious and conscious or in terms of autonomic processes, and so the obvious incongruence between the requests of the hypnotist is not so obvious. Yet we are faced with the inevitable fact that if the subject's hand lifts, he lifted it. He may deny it, but no one else lifted that hand.

There are only two possible responses by a subject to a request that he lift his hand and not lift it. He can refuse to do anything and thereby antagonize the hypnotist and end the trance session. He can lift his hand and simultaneously deny that *he* is lifting it, or conceivably that it is lift-

ing.² A third possibility would be for him to lift it and say he did, and then the hypnotist would say, "But I told you not to lift it," and the procedure would begin again.

Every trance induction method involves this kind of contradictory request. Indeed whenever one requests "involuntary" behavior from another person he is inevitably requesting that the subject do something and simultaneously requesting that he not do it. This is what "involuntary" means.

Not only is the double-level request apparent in trance induction, but during the process of deepening the trance it becomes even more obvious. At some time or other in hypnotic interaction the hypnotist tests or challenges the subject. These challenges are all formally the same: the hypnotist asks the subject to do something and simultaneously asks him not to do it. The most common is the eye closure challenge. The hypnotist asks the subject to squeeze his eyes tightly closed during a count of three, and at the count of three the subject is asked to try to open his eyes. He is told that the harder he tries to open them the more tightly they will remain closed. Once again the request "Open your eyes" is qualified by the statement "Keep your eyes closed." Essentially the subject is told, "Obey this suggestion," and then he is told, "Don't obey my suggestions." When the test is successful and the subject keeps his eyes closed, he is said to be "involuntarily" unable to open them. Observing his behavior we would say he is keeping his eyes closed and qualifying this behavior with the statement that *he* is not keeping them closed.

² The use of the term "denial" here does not imply that the subject is calculatedly denying that he is lifting his hand. He may subjectively be certain that the hand is lifting itself. The emphasis here is on his behavior.

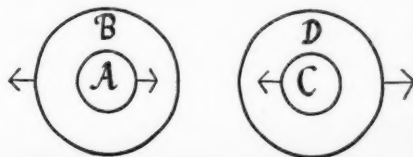
The Double Bind

This double level request which the hypnotist poses can be labeled a "double bind" and its characteristics can be described. A "double bind" is present when one person communicates a message and qualifies that message with an incongruent message in a situation where the other person must respond to these contradictory messages, cannot leave the field, and cannot comment on the contradiction (1). The hypnotic situation not only contains double-level requests by the hypnotist, but also the other two elements; the subject cannot comment on the contradiction or leave the field. It is difficult for the subject to leave the field because he has usually requested a trance to begin with. Most hypnosis is done with voluntary subjects. It is also difficult for the subject to comment on the incongruence in the hypnotist's suggestions because of the hypnotist's approach. If a subject is asked to concentrate on his hand and comments on this suggestion by asking why he should, he is usually informed that he does not need to inquire why but should merely follow suggestions. The behavior of the hypnotist rather effectively prevents the subject from engaging in conversation about the hypnotist's behavior.

As an illustration of an obvious double bind during a hypnotic induction, a resistant subject once said to Milton Erickson, "You may be able to hypnotize other people, but you can't hypnotize me!" Erickson invited the subject to the lecture platform, asked him to sit down, and then said to him, "I want you to stay awake, wider and wider awake, wider and wider awake." The subject promptly went into a deep trance. The subject was faced with a double level message: "Come up here and go into a trance," and "Stay awake." He knew that if he followed Erickson's suggestions, he would go into a trance. Therefore he was de-

termined not to follow his suggestions. Yet if he refused to follow the suggestion to stay awake, he would go into a trance. Thus he was caught in a double bind. Note that these were not merely two contradictory messages, they were two contradictory levels of message. The statement "Stay awake" was qualified by, or framed by, the message "Come up here and go into a trance." Since one message was qualified by another they were of different levels of message. Such conflicting levels of message may occur when verbal statement, tone of voice, body movement, or the contextual situation, qualify each other incongruently. A double level message may occur in a single statement. For example, if one person says to another, "Disobey me," the other person is faced with an incongruent set of messages and can neither obey nor disobey. If he obeys, he is disobeying, and if he disobeys, he is obeying. The statement "Disobey me" contains a qualification of itself and can be translated into "Don't obey my commands," and the simultaneous qualifying statement, "Don't obey my command to not obey my commands." A hypnotic challenge consists of this type of request.

When the hypnotist presents incongruent messages to the subject, the subject can only respond satisfactorily with incongruent messages. The peculiar kinds of behavior exhibited by a hypnotic subject are reciprocals to the hypnotist's requests. As an illustration, we can diagram hypnotic interaction in this way.



The letter A represents the hypnotist's statement, "Keep your eyes open

and stare at this point." This statement is qualified by B, "Your eyelids will close." The subject cannot respond satisfactorily if he responds to A and keeps his eyes open. Nor can he respond satisfactorily by responding to B and closing them. He can only respond with incongruent messages when asked to close his eyes and not close them. He must close them, C, and qualify this closing with a denial that he did it, D.

Should the subject respond to only A or B, and thereby respond congruently, the hypnotist is likely to point out to him that he isn't cooperating and begin again. More clever hypnotists will handle a congruent response in other ways. For example, if a subject should stubbornly keep his eyes open, thus responding only to A, the hypnotist might suggest that he hold them open as long as he can, no matter how much of an effort this is. In this way he ultimately produces the eye closure and accepts the weariness as an "involuntary" response.

Essentially the hypnotist is saying to the subject, "Do as I say, but don't do as I say," and the subject is responding with, "I'm doing what you say, but I'm not doing what you say." Since human beings can communicate at two levels, this type of interaction becomes possible.

THE HYPNOTIC RELATIONSHIP

The relationship between hypnotist and subject was previously described as the enforcement of a complementary relationship by the hypnotist. When the subject responds to the hypnotist's messages rather than initiating his own, he is joining the hypnotist in a mutual definition of the relationship as complementary. When the subject "resists", he is opposing the hypnotist's complementary maneuvers with counter-maneuvers. Characteristically these define the relationship with the hypnotist as symmetrical—one between

equals—rather than complementary. The hypnotist counters these maneuvers with maneuvers of his own which define the relationship as complementary. He may, for example, ask the subject to resist him. In this way a symmetrical maneuver is re-defined as complementary. It becomes behavior requested, and therefore to respond symmetrically is to do as the hypnotist says and so behave as one does in a complementary relationship. This "topping" or countering the maneuvers of the subject was described as essentially an attempt by the hypnotist to win control of what sort of relationship he and the subject are in.

The particular maneuver of the hypnotist, the double bind, makes it impossible for the subject to counter with a maneuver which defines the relationship as symmetrical. If one is asked to do something and simultaneously asked not to do it, one cannot refuse to follow suggestions. If the subject responds or if he does not respond he is doing what the hypnotist requests and when one does what another requests, he is in a complementary relationship. The subject can only behave symmetrically by commenting on the contradiction or leaving the field and ending the relationship. If he leaves the field, the relationship is ended. If he comments on the hypnotist's statements and thereby behaves in a symmetrical way, he is likely to meet a counter-maneuver which enforces a complementary relationship. The hypnotist may, for example, suggest that he comment on his behavior, thereby stepping to the meta-complementary level and defining the comments as responses to his suggestions. Then, if the subject comments, he is doing what he is told and therefore defining the relationship as complementary.

A complication must be added to this description of hypnosis. To say that the hypnotist imposes a complement-

ary relationship and the subject in trance is agreeing to this definition is to leave hypnosis undifferentiated from other types of relationship. Conceivably there are many other situations in which one person tells another what to do and the other willingly does what he is told so that they mutually define the relationship as complementary. Yet in these other situations trance behavior is not apparent. The person doing what he is told does not manifest denials that he is doing so. It seems apparent that trance behavior is not explained by saying that the subject and hypnotist behave in those ways which define their relationship as complementary. The complication is this: the hypnotist not only prevents the subject from behaving in symmetrical ways, thus forcing him to behave in complementary ways, but he prevents the subject from behaving in complementary ways as well.

If the subject resists the hypnotist, thus behaving in a symmetrical way, the hypnotist may ask him to resist, thus forcing him to behave in a complementary way. However, if the subject behaves in a complementary way and follows suggestions willingly, the hypnotist then asks him to behave symmetrically. He asks the subject to refuse to follow his suggestions. Essentially a challenge is a request that the subject resist the hypnotist, since the subject is asked to do something the hypnotist has told him not to do. Actually the double bind prevents both complementary and symmetrical behavior. Just as one cannot refuse to respond to a double bind and is thereby prevented from behaving symmetrically, one cannot behave in a complementary way by responding because he is also being told not to respond. The subject is also prevented from achieving the third type of relationship, the meta-complementary. Conceivably he could let the hypnotist tell him what to do and in this sense

be labeling what the hypnotist does as done with his permission. However, when he behaves in this way, the hypnotist requests that he try to prevent himself from doing what the hypnotist asks and acknowledge that he can't. The challenge forces him to abandon meta-complementary behavior. Whichever way the subject tries to define his relationship with the hypnotist, he finds the hypnotist refusing to accept that type of relationship.

The hypothesis offered here seems to have reached an impasse at this point. It was said earlier that all behavior of a person defines his type of relationship with another and it was then said that all relationships can be classified as either symmetrical, complementary, or meta-complementary. Now it is said that the trance subject's behavior does not define the relationship in any of these ways. A way out of this impasse is possible when it is seen that *the subject is not behaving*. All of his behavior is labeled as not his behavior, and so he cannot be indicating what sort of relationship he is in. The goal of the hypnotist is precisely this: to prevent the subject from controlling what sort of relationship they have. He prevents the subject from defining the relationship as symmetrical, complementary, or meta-complementary by inducing him to negate or deny that behavior which would define the relationship. If Mr. A is responding to Mr. B, the very existence of that response defines the relationship as complementary. However, if Mr. A responds to Mr. B and denies that *he* is responding, then his response is not defining his relationship. The behavior of the subject in trance does not define a particular kind of relationship but indicates that the subject is not defining the relationship at all. The control of what sort of relationship it is rests with the hypnotist, and this differentiates the hypnotic relationship from all others.

To clarify and differentiate the hyp-
notic relationship from others, a dia-
gram can be drawn which represents
any relationship. When any two peo-
ple meet for the first time and begin to
interact with each other all sorts of
messages are potentially possible be-
tween them. They may interchange
insults, compliments, sexual passes, re-
jecting statements, violent blows, and
so on. All of these potential kinds of
interaction are represented in Figure 1
by X's. As the two people interact,
they work out between them what sort
of behavior, or what sort of messages,
are to take place between them. They
agree that certain messages are not to
occur in this relationship and that other
kinds are to be included. Thus they
draw a line differentiating what is to
take place in this particular relation-
ship and what is not. This is repre-
sented by the line in the diagram
which includes some X's and excludes
others. For example, if Mr. A criti-
cizes Mr. B, thereby placing criticism
from him within the frame of the rela-
tionship, Mr. B may say "I won't take
criticism from you," thereby excluding
it from the relationship. If Mr. A
agrees to this, then criticism by him is
outside the line rather than in it. Hu-
man interaction consists of mutual be-
havior which indicates where this line
is to be drawn.

All the items of behavior, or mes-
sages, interchanges by two people can
be classified as behavior which defines
the relationship as symmetrical or be-

havior which defines it as complement-
ary. Thus an X in Figure 1 becomes a
member of the class "complementary"
or the class "symmetrical." A criti-
cism by Mr. A indicates a comple-
mentary relationship, and Mr. B's re-
fusal to accept it indicates a symmet-
rical relationship. In this way the two
people work out what sort of relation-
ship it is, complementary or symmet-
rical, by what sort of behavior they
agree shall be included within the re-
lationship. Figure 2 represents a hy-
pothetically extreme complementary
relationship.

Any two people interacting are con-
stantly working out what sort of be-
havior is to take place in the relation-
ship. However, they are working out
a higher level problem: who is to de-
cide, or control, what sort of behavior
is to take place. As they behave with
each other, each message by the fact
of its existence implies that it belongs
in the relationship. At the same time
each message is qualified by other
messages which indicate such ideas as
"This message belongs in our relation-
ship," or "Does this message belong in
our relationship?" or "This message
belongs in our relationship whether
you like it or not." Implicit in these
qualifying messages is an attempt to
work out who is to decide what mes-
sage, or type of behavior, is to take
place in this relationship. In a normal
relationship this deciding is shared. A
offers a message, B counters with one
of his own, and each indicates that he

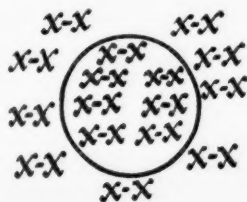


FIGURE 1

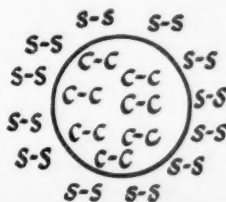


FIGURE 2

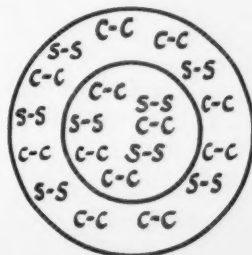


FIGURE 3

is deciding what behavior is to take place and therefore what sort of relationship it is.

What differentiates the hypnotic relationship from others is the mutual agreement which is worked out that the hypnotist is to control what sort of behavior is to take place. All behavior from the subject is either initiated by the hypnotist, or if the subject does initiate some behavior it is labeled as not being initiated by him. To avoid controlling what sort of behavior is to take place, the subject must qualify what he does with denials that he is doing it, that it is being done, or that it is being done in this place and time. Thus at the qualifying level he is behaving in those ways which avoid defining the relationship by avoiding the implication that his behavior is done in relationship to the hypnotist. The hypnotist takes control not only of the behavior which takes place but of the qualifications of that behavior. A diagram of the hypnotic relationship would look like Figure 3.

By placing whatever happens in the relationship within a meta-complementary frame, the outer circle in the diagram, the hypnotist completely controls what sort of behavior is to take place and therefore where the relationship line is to be drawn. The trance is successful when the subject communicates the messages requested by the hypnotist, qualifies those messages with denials that he is communicating them and therefore denies that he is defining the relationship, and thereby acknowledges that the hypnotist is in control of the definition of the relationship. This is, of course, a statement about a hypothetically ideal hypnotic relationship. In practice no subject will let a hypnotist take complete control of the relationship.

When the hypnotic subject avoids defining his relationship with the hypnotist, he appears to experience a variety of subjective experiences at the

perceptual and somatic level. His perception of himself, the world, time and space, and the behavior of other people undergoes distortions which seem to occur outside of his control and often outside of his awareness. This paper has not dealt with the nature or extent of these presumed distortions but rather an attempt has been made to describe the interpersonal context in which they occur. Such an attempt has relevance outside the field of hypnosis. Many types of psychopathology are characterized by intrapsychic distortions so similar to those which occur in hypnotic trance that hypnotic subjects are often used to demonstrate psychiatric symptoms. If less emphasis is put upon the intrapsychic processes of patients and more on their behavior within a relationship, it is conceivable that a descriptive system can be developed which will classify the interpersonal situations which provoke many clinical symptoms. Although the hypnotic relationship is a unique type, the peculiar kinds of communication sequences which occur between hypnotist and subject may be found outside the hypnotic situation in the personal relationships of individuals. Presumably when more exact descriptions of human interaction are developed, the interpersonal situations which provoke intrapsychic disturbances will be better understood.

SUMMARY

An interactional description of the hypnotic situation has been presented with special emphasis on the relationship between hypnotist and subject as they communicate with one another. The communicative behavior of hypnotist and subject was described in terms of the ways they behave and the ways they qualify that behavior. These two levels of communication function together to define the sort of relationship they have with each other. It was suggested that the hypnotist communi-

cates two contradictory levels of message to the subject in a situation where the subject must respond, cannot comment on the contradictory requests, and cannot leave the field. This double level communication of the hypnotist was termed a "double bind." Induction techniques and "challenges" were described as requests that the subject do something and simultaneous requests that he not do them. The response of the subject is to do them and deny he is doing them and thereby manifest "involuntary" or trance behavior. The "involuntary" was defined as actions by the subject qualified by statements that the subject did not make those actions. His qualifying statements consists of statements that

he did not do something, that something was not done, that it was not done for the hypnotist, or that it was not done in this time and place. The hypnotic relationship was classified as meta-complementary within a framework of three possible types of relationship. It was argued that trance behavior takes place when the hypnotist controls what sort of relationship he has with the subject and the subject cannot indicate what sort of relationship it is. The perceptual and somatic experiences of the hypnotic subject were considered a product of this kind of relationship with the emphasis on the interaction, which is observable, rather than on the subjective experiences of the subject, which are conjecture.

REFERENCE

1. Bateson, Gregory, Jackson, Donald D., Haley, Jay, and Weakland, John H. Towards a theory of schizophrenia. *Behav. Sci.*, 1956, 1, 251-264.

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SOME POINTS REGARDING HYPNOSIS IN DENTISTRY¹

by Galina Solovey, M.D., and Anatol Milechnin, M.D., Montevideo, Uruguay

Hypnotism does not constitute an anomaly of behavior, but an integral part of the human being's normal psychological life, from birth till death (1).

The hypnotic state may be described as an emotional condition (2, 3) that may have a great diversity of nuances, such as serenity, satisfaction, fear, anger.

The science of hypnotism deals with the psychophysiological condition of a person under any emotional state that exceeds a certain level of intensity. Thus understood, this science may be applied not only to man, but also to all animals that reveal emotional reactions (4).

Emotional life is governed by a complex interaction between the sensory organs that are reached by external stimuli, the cerebral cortex, the sub-cortical nervous centers, especially the hypothalamic, the vegetative nervous system, the ductless glands, and the viscera (5).

There are two fundamental groups of emotions, each with a great variety of nuances, that differ in the psychophysiological effects they produce in the organism, namely, stabilizing emotions and disturbing emotions (6). Stabilizing emotions affect the parasympathetic system, causing restitution of energy, regularization of visceral functions, and activation of nutrition (7). Disturbing emotions affect the sympathetic system, bringing about tension, altering the visceral functioning, and inciting toward muscular activity with mobilization of strength and resources (7).

An illustrative example of the difference in the effects produced by both types of emotion in the organism is found in the bleeding after dental extraction. If the hypnotic state is induced by a procedure that causes tranquillity and relaxation, the loss of blood is insignificant, regardless of the suggestions in this respect. But if the hypnotic state is induced by an authoritarian procedure, which causes a state of tension, and this tension is not turned later to relaxation, a fairly abundant bleeding ensues.

We carried out an experiment with the collaboration of Dr. Einstein, who performed the dental work. A patient who could achieve an excellent analgesia through relaxation had a molar extracted with practically no loss of blood, although no suggestion had been given with reference to the bleeding.

We then told the patient that, in order to prevent possible infection, it was desirable that he should allow the blood to flow out freely. This he could do by becoming more and more relaxed. He had to be calm, very relaxed, and not make any attempt to stop the bleeding. But not a drop of blood appeared.

After this, we declared with some vehemence that it was enough, that he had already lost the necessary amount of blood, that he should arrest the flow of blood that was becoming excessive, otherwise it might be detrimental to his health, he must tense all his muscles in an effort to check the bleeding. Precisely at this moment, we saw that the patient had become tense, that his breathing was rapid and that the cavity was bleeding.

This shows clearly that the loss of

¹Lecture to the Sociedad Argentina de Hipnodoncia, delivered at its inaugural session for the year 1958 on April 8, 1958.

blood from small vessels does not depend on the suggestions that are given, and may even oppose these suggestions, being related only to the person's emotional condition. In an emotional state of tranquillity and relaxation, little or no blood is lost; in a state of tension, the loss of blood increases (8, 9).

Intense emotional states are mobile. They may easily change not only from one emotional nuance to another, but even from stabilizing to disturbing emotions and vice versa. This transformation entails the corresponding change in the effect caused by the emotional condition on the vegetative nervous system and the resulting psychophysiological changes. Such an emotional lability is very evident in the deliberately induced hypnotic state.

The same stimulus may elicit either stabilizing or disturbing emotions, according to the circumstances under which it affects the person. Thus, as a classical example, the caresses provided to an individual when he needs them bring about an emotion-stabilizing effect, mediated through the parasympathetic system. But a similar stimulus of caresses, lavished on an over-protected individual becomes irritating, acting through the sympathetic system, whereas an opportune authoritarian attitude may cause emotional stabilization in such people.

* * * * *

As the intensity of the emotional state increases, certain changes take place in the person's psychophysiological capacities. The intensification of an emotional state may bring about, according to the person's characteristics, a decrease in the critical functions, a tendency to confuse one's own thoughts with external reality, an increased influence of the psyche over the somatic functions, or an increase or a decrease in memory.

These psychophysiological peculiari-

ties of an individual under an intense emotional state make possible certain phenomena of behavior, such as the acceptance of bizarre suggestions, hallucinations, catalepsy, anesthesia, and varied visceral changes of psychic origin. All these phenomena may appear spontaneously in intense emotional states found in everyday life under various circumstances. Thus, nobody is surprised to find that an intensely frightened person may be insensitive to pain or have visual or auditory hallucinations, a mobilization of unsuspected strength, a total or partial amnesia for the terrifying situation, or remain "petrified" in a cataleptic condition.

Similar phenomena may be found in intense joy, violent rage, in the psychophysiological reactions brought about by the responses of self-preservation or protection of the young, in the emotional behavior of multitudes, in ritualistic activities, and so forth.

It is easy to understand a disturbing emotion, such as fear, which rises to a very high level of intensity with the consequent psychophysiological effects, even leading to a loss of consciousness with weakening of the pulse and a fall in blood pressure. But, on the other hand, it is difficult to conceive a stabilizing emotional state, for example, of serenity, satisfaction, tranquillity, carried to an extreme degree of intensity. This is nothing else than a stuporous hypnotic state, characterized by a marked reduction or even abolishment of the person's contact with the external world, a decrease in sensitivity (that is, spontaneous anesthesia), diffuse visual or auditory perceptions, immobility with incapacity to make the required movements, and a depression of the vital function, which may reach the so-called "suspended animation" (4).

In sufficiently intense stabilizing emotional states, the various behavior phenomena do not usually appear

spontaneously, as in disturbing emotions, but are present in a latent state and may be made manifest by appropriate suggestions.

Naturally, suggestion is not a force that creates hypnotic phenomena, but a mere "litmus paper" (8) that simply reveals the psychophysiological qualities and capacities of the organism, resulting from the level of intensity of the emotional condition, regardless as to whether it is a spontaneous or a deliberately induced emotional state.

The possibility of presenting some hypnotic phenomenon or other does not depend so much on the depth of the hypnotic state as on the individual peculiarities of the subject (10).

Thus, for example, many people achieve analgesia in a light hypnotic state, while others attain it in the somnambulistic condition, and still others cannot attain it till they have reached the stuporous state, in which analgesia may come about spontaneously as an integral part of this psychophysiological condition, without requiring any specific suggestion. Analgesia is, to a certain degree, a special phenomenon, since the majority of hypnotic phenomena, such as amnesia, various hallucinations, etc., cannot be obtained solely by the increase in hypnotic depth, if the subject does not have certain psychophysiological characteristics of his own. This being the case, all suggestions directed to the attainment of these phenomena are ineffective.

Many attempts have been made to establish scales for the measurement of hypnotic depth, that is, emotional intensity, on the basis of a supposed regularity in the succession with which various behavior phenomena appear.

Since there is no such regular succession of hypnotic phenomena, and some people may not achieve one or another phenomena under any circumstances whatever, these scales are of no validity for the determination of

the intensity of the hypnotic emotional state (11). If, in the best of cases, they may give a roughly approximate idea of the intensity of the hypnotic emotional state in adults, when applied to children they do not even perform this service.

We find it more adequate to appreciate grossly the intensity of the hypnotic emotional state, not by the phenomena which the subject achieves, but by the external aspect of the person when carrying out these phenomena. On this basis, we distinguish three schematic phases of intensity (4) in the hypnotic emotional state of the stabilizing type. Of course, each of these fundamental phases may, in its turn, be subdivided from different viewpoints.

In the first phase, the external aspect of the person does not differ from the one he has in daily life, although the subject may present one or another behavior phenomenon spontaneously or after having received appropriate suggestions. Such a phenomenon may be anesthesia, some hallucination, certain psychosomatic effects, etc. This is observed very characteristically in children and in the hysterical type of personality (4, 7).

In the second phase, which some authors call a somnambulistic hypnotic state, it becomes evident that the subject is not in the usual waking condition. There is a peculiar retardation and slowness in the person's speech, as well as in the movements he carries out at the operator's suggestions. The pulse and respiration rates may be reduced.

The third phase corresponds to the stuporous state which, because of its peculiar psychophysiological characteristics, impedes both speech and movements (12).

For hypnodontic purposes, we are particularly interested in the zone of intensity of the hypnotic emotional

state bordering on the first and second phases.

According to data of several authors, like Moss (13), Burgess (14), Rosen (15), and others, such a level of intensity is achieved in the course of five to ten minutes in 80% of the dental patients. Complete analgesia may be obtained, as these same authors declare, in 15 to 50% of the patients.

* * * * *

The manner of inducing the hypnotic state in a consulting-room requires special attention, since it is necessary to proceed with the dignity that is appropriate to this environment and to avoid all that appears extravagant, dramatic and remindful of theaters and circuses (16, 17, 18), these being only a superfluous decoration in the induction process. Since the general public still has multiple prejudices in connection with hypnotism, it is preferable not to employ this word in front of the patients (16, 19, 20).

In the first place, the word "hypnotism", which derives from "hypnos" meaning sleep, has lost its etymological meaning, just as the word "hysteria" is no longer understood in its original sense, relating to abnormalities in the womb.

Quite often, "hypnotism" has connotations with something mysterious, that may cause fears, superstitious interpretations, and resistances on the basis of ideas incorporated by a person. The professional might have to lose much time explaining to the patient that "hypnotism" is not precisely what the latter thinks it to be.

Furthermore, the procedure of hypnotic induction by means of relaxation is quite different from what some people expect a "hypnotist" to do. These people may remain in a state of expectation that will make it difficult for them to relax.

Even the name of the American Society of Psychosomatic Dentistry seems

to indicate a deliberate avoidance of the term "hypnotism."

In relation to this, some dentists describe hypnosis as a "psychosomatic sleep" (21). We believe that this explanation is not completely satisfactory, since it introduces an idea that is new and, to most patients, incomprehensible.

The most adequate explanation of hypnotic induction must have reference to some notion familiar to everybody. This notion must bring forth associations with something that is acceptable, sure, simple, and not dangerous. It must not demand a lengthy explanation, but only a brief comment on some technical details, to achieve the patients' full collaboration, and it must permit the professional to justify easily any failures in achieving hypnotic induction or analgesia.

It seems to us that these conditions are fulfilled by telling the patient that the procedure which will be used to make dental work painless is analogous to the one employed for childbirth without pain, that is, a process of relaxation. The patient will find it easy to associate dental analgesia with the widely popularized obstetrical analgesia, nowadays known to practically all social classes. One of the pioneers of hypnodontia in the U.S.A., Dr. Jules Weinstein (22), has already suggested that such an explanation may be given.

As a matter of fact, this does not involve any deceit, since both the method of "childbirth without pain" (or "without fear") advocated by Dick-Read (23), and the "psychoprophylactic preparation for painless childbirth" used in the Soviet Union (24, 25) consist essentially in training the pregnant woman to achieve relaxation. If all superfluous suggestions are eliminated (such as those referring to heaviness of eyelids, sleep, exclusive obedience of the operator's orders, etc.) only the interpersonal relationship and the relaxation are left. These are precisely

the common factors in the procedures that attain analgesia for childbirth or dental work or have psychotherapeutic effects (26, 27).

In some very special cases, particularly in over-protected children, it may be necessary to resort to authoritarian procedures for hypnodontic purposes.

When patients require psychotherapy for certain psychogenic processes of the periodontal tissues,² or for a better tolerance of dentures, the explanation of the relaxation procedure may include reference to Schultz' "autogenic training", well known in Europe, which consists in a progressive relaxation of different parts of the body, applicable to the treatment of varied psychosomatic disorders.

Schultz (28) himself has recognized that his procedure is nothing else but an induction of the hypnotic state. Such an admission is somewhat unusual, since relaxation procedures are mostly given any explanation except the one that relates them to hypnosis, usually stressing secondary or even superfluous factors. (In Dick-Read's procedure of painless childbirth, success is considered to be due to the woman's understanding of the physiological process of parturition. Yet this theory does not explain why women doctors suffer during delivery although they are very well acquainted with the mechanism of childbirth).

* * * * *

Hypnotic induction, if it may be so called, consists in stimulating the person to increase the intensity of any emotional state (5). In fact, the term "hypnotic induction" is inadequate,

since Bernheim (30) already indicated that the hypnotic state is not brought about by external forces, but is developed within the subject himself. Erickson (31) has compared it very graphically to the vital process that develops within the egg, stimulated by the warmth of an incubator.

From a historical perspective, the procedures for intensification of certain emotional states have varied according to the period, the cultural environments, and the convictions and superstitions of the peoples (32).

In our present civilized environment, nobody would enter a hypnotic state while a shaman beats a drum and dances frenetically, but in the Arctic Circle, such shamans still induce hypnotic emotional states in their followers, causing them to have analgesia, catalepsy, or "visions". However, many elements of shamanism, ritualism, and magic-making in hypnotic induction persist today, even in medical circles (33). What does it mean to tell a person to fix his gaze on the operator's eyes or on some bright object? Or to say that his eyes will open or close when the operator has counted up to three? Or to give the suggestion, after tooth-extraction, that the bleeding will stop? The suggestion of stopping the blood flow from small vessels, given to a person in a state of relaxation is equivalent to ordering a piece of ice to melt when it has been placed on a hot plate.

We speak of a direct hypnotic induction when it results from an interpersonal relationship in which the operator is an active agent, who seeks the most appropriate way to intensify the emotional state of the subject (32). There is also an indirect hypnotic induction, where the operator is passive, his mere presence acting as a catalyst for the development by the subject of an autohypnotic state. In professional practice, as in daily life, the direct and indirect kinds of hypnotic induction

² A study of the "Neuropathologic Manifestations of Oral Tissue" by Mellars and Herms (29) indicates that the fluctuations of bleeding of gums coincide with fluctuations of emotions. These authors found that excited patients had bleeding, exudate, and hypertrophy of gums, while depressed patients had recessive pale gingiva and loose teeth.

are likely to be found combined. Let us analyze some illustrative situations:

We often hear that one or another dentist has a special "gift" for treating his patients, or is endowed with a "light hand" that makes dental work less painful. What does this mean?

It means that this dentist is able to stimulate some favorable emotional condition in his patients, which brings about a certain degree of analgesia. Clearly, it is a case of hypnotic emotional state in the first phase of intensity.

At the same time, the fame of having a "light hand" is in itself effective, since it helps the patients to achieve the expected analgesia, even on first sight of the professional.

Very similarly, the promoter of the procedure of painless childbirth, Grantly Dick-Read, came to be surrounded by so many pre-suggestions that, according to True (34), it was sufficient for the women to know that Dick-Read was in the delivery room, to experience an emotional state of sufficient intensity to cause an obstetrical analgesia.

Another example: it is harder to find a more passive figure in hypnotic induction than the "all-powerful" theatrical hypnotist. His only ability consists in knowing how to recognize, by certain signs, the few people among the public who have entered an autohypnotic state merely on having seen the hypnotist (16). The test of not being able to separate the hands is very useful for this purpose. All passes and dramatic gestures performed before such people are completely superfluous, and are solely intended to impress spectators.

Theatrical hypnosis has the characteristic possibility of the transformation of the subjects' autohypnotic state into an interpersonal relationship with the "hypnotist". Essentially, the effect produced by the appearance of the theatrical hypnotist is comparable to the

effect which may follow the appearance of an ordinary mouse, whose mere presence can make some people reveal an intensified emotional state, that is, an autohypnotic state, by shrieking and jumping on chairs. If the mouse had the power of speech, it would have no difficulty in bringing about the transformation of such an autohypnotic state into an interpersonal hypnotic relationship, and achieving, in those particular people, the same phenomena which are proudly called forth by the theatrical hypnotist (16). This comparison clearly illustrates the passivity of the operator in theatrical hypnosis.

It must be stressed that the stimulation of the hypnotic emotional state by indirect means, making use of extravagant gestures and mysterious passes, may only be performed by those operators who are favored by an aura of pre-suggestions, and even these succeed with a restricted number of subjects.

Unfortunately, some of these operators do not understand the nature of their successes and pretend to formulate general rules for hypnotic induction. The novice must personally discover the inefficacy of these rules in a majority of cases, at the price of painful experience.

Among the extravagant procedures of hypnotic induction, we can mention Charcot's manner of rubbing the back of the subject's head with a piece of metal, or sounding a gong near his ear; Elliotson's procedure of making the subject touch a "magnetized" nickel coin; Mesmer's technique of placing the subjects around a tub holding "charged" iron bars projecting from it; and the still recommended procedures that resort to bright lights, crystal balls, rotating mirrors, metronomes, or fixation of gaze upon special objects.

With reference to such varied resources, we can quote what has been said very rightly by Watkins (35): "The induction of trance is therefore not largely a matter of technical ma-

nipulation but more a problem of understanding and interacting in an intimate inter-personal relationship situation."

* * * * *

The procedure of hypnotic induction which has practically universal efficacy is based on the attainment of a state of relaxation. To this end, the operator must necessarily assume an attitude of understanding, consideration, and sympathy towards the subject (18, 31).

It is interesting to indicate the considerable similarity in the rules for the "preparation of the subject for hypnotic induction" (31), given by Erickson (called the "clinically most astute hypnotist of our times"—36), and the advice proffered by the well-known author, Dale Carnegie (37) in his book *"How to Win Friends and Influence People"* (1).

A certain minimum of environmental conditions facilitates hypnotic induction. These include a comfortable armchair with adequate support for the feet, a sufficiently warm atmosphere without drafts, light that does not irritate the eyes, clothing that will not cause the patient uncomfortable compressions.

It is necessary to give the subject a comprehensive explanation of the procedure that will be employed. Special emphasis must be placed on the fact that the success or failure in achieving analgesia will depend on his collaboration, consisting in the relaxation of all his body. He is then informed that some people may develop this relaxation in one or two minutes, while others require 15 to 20 minutes, and still others much more time to attain it. Those people who find it difficult to relax should practice doing so in their homes, in the intervals between their visits to the professional man.

There are people who find it easier to relax when they represent mentally some circumstance they associate with relaxation, imagining for example,

that they are in a bath full of warm water, or sun-bathing on the sand, or smoking calmly in a comfortable armchair. Each person has his own associations in this respect.

The degree of relaxation is exemplified by the flaccidity with which the arm falls when raised, and the analgesia, by the compression of a finger or the pricking of the skin in some part of the body.

Having explained all this, the operator begins to seek directly the patient's relaxation, by asking him to adopt the most comfortable position he can find, and by speaking to him softly, in a manner which, according to a description given by Rosen (38) "duplicates the tone and manner of a loving parent when enjoyably reading fairy-tales to a three-year-old"

The suggestions, to be repeated in various combinations, are precisely those that will help the subject to relax, referring to his comfort, to the loosening and repose of different parts of the body, to his indifference to external sounds, etc. Any other suggestion, not related directly to relaxation, may hinder the development of the hypnotic state.

When it is seen that the patient's facial lines are smoothed out, his eyes remain motionless, his breathing has become slower, his limbs drop flaccidly, and his general aspect is comparable to that of a child resting, it may be concluded that he is in a hypnotic state. This state may come about with surprising rapidity, developing in two or three minutes in 15-20% of the subjects, when only the first words have been said to them. Once the hypnotic state has been achieved, the operator may pass to his second task: the attainment of a total or partial analgesia, according to the subject's capacity.

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Unfortunately, there are no exact statistics about the analgesia that may

be obtained in the conditions under which the dentist usually works. The considerable differences in the existing statistical studies may be explained mainly by the variations in the criteria with which the authors appraise their results. Furthermore, it is not stated at what level of hypnotic depth the analgesia was sought.

The data given by Moss (13), Burgess (14), Rosen (15) and others reveal that 15 to 50 per cent of the subjects attain a complete loss of sensitivity to pain. Another group of subjects have what Rosen (38) has called a "psychological lobotomy", which makes them lose the emotional component of pain without losing the sensitivity to the corresponding stimuli. That is, painful stimulation does not distress them, and they can tolerate dental work without chemical anesthetics. Finally, approximately 20% of the patients cannot achieve either complete analgesia nor psychological lobotomy, requiring the aid of an anesthetic injection to tolerate dental work well. Even in these cases, the hypnotic state is psychologically beneficial.

It is hard to foresee whether the subject will achieve complete analgesia or the so-called "psychological lobotomy". For this reason, when the test of finger-compression or pricking of the skin is performed, it is better to give a suggestion that will encompass both possibilities, saying that the subject will feel no discomfort, or even if he feels some insignificant discomfort, it will be quite tolerable.

The subject must be given time to assimilate the suggestion, before the test is carried out. If the test is positive, that is, the patient does not feel or tolerates well the pain, the operator proceeds to indicate the part of the mouth where the patient will have analgesia. It may be helpful to say that this part appears to be stiff or frozen. Sometimes the patient himself tells us how he wants it to be described.

The suggestion that no pain will be felt is to be accompanied by any rationalization that is understandable and acceptable to the subject, however absurd it may be from the technical point of view. The patient may be told, for example, that the treatment of carries which has not reached the nerve, like the one he has, causes little pain and is invariably tolerated perfectly if the person is relaxed. Or it may be said that there is less sensitivity in the upper right molar, or the lower left, etc.

It may also be said that the patient will not be troubled by the work with instruments or the drilling machine (which he will naturally perceive) because the drill is of some special metal or the work will be done with a minimum of revolutions.

Is it not a bizarre rationalization to link obstetrical analgesia with the idea that knowledge of the mechanisms of childbirth eliminates pain (which has been, and still is, the theoretical foundation of the contemporary procedure of painless childbirth), considering that this mere knowledge does not prevent women physicians and midwives from suffering during delivery?

Another no more bizarre rationalization pertains to women in certain tribes of South American Indians, whose frequently painless parturition is said to be due, not to the psychologically adequate treatment the woman receives before and during delivery, but to the fact that, while she is in the process of childbirth, her husband moans and writhes in some other place, receiving comfort and help from relatives and witch doctors, in an apparently very successful attempt to deceive the evil spirits into thinking that it is he and not his wife who is bearing a child.

Of course no rationalization will be effective for diminishing or eliminating pain unless it is given in the psychological atmosphere of a constructive interpersonal relationship, that is, a

hypnotic relationship of a positive kind (6).

The importance of these rationalizations must be stressed, because direct suggestion plays a very secondary role in the achievement of analgesia.

Thus, there is a considerable proportion of patients who do not respond to the direct suggestion of dental analgesia in the first two phases of hypnotic depth, requiring either a deepening of the hypnotic state or the use of chemical analgesia to make dental work painless. On the other hand, the tests of finger-compression or pricking of the skin reveal that patients frequently present analgesia or hypoaesthesia in the first two phases of hypnotic depth, without having received any direct suggestion in this respect.

It may be said that analgesia is one of the attributes of the hypnotic state, being in a direct relationship with the depth of this state, although there are variations in the personal capacities of the subjects to have analgesia in the earlier phases of hypnotic depth.

In the stuporous state, that is, in the third stage of hypnotic depth, analgesia exists as an intrinsic characteristic of this condition (4). Therefore, all direct suggestion of analgesia is superfluous, even for major surgical operations. In the second phase of hypnotic depth (somnambulistic state) it is also possible to find this same analgesia, though not in all people. Even in the first phase of hypnotic depth, there may be some analgesia or hypoaesthesia in a considerable number of persons, without any direct or indirect suggestion.

Some authors like Maiorov (55) consider that analgesia, together with lengthened sensory chronaxie, is to be included among the "physiological characteristics of somnambulism," that is, of the condition we refer to our second phase of hypnotic depth.

For the purpose of painless dental work, which is carried out principally

in the first and second phases of hypnotic depth, the main concern of the operator does not consist in giving direct suggestions which declare: "You will not feel pain!", but in knowing how to create an adequate emotional situation through rationalizations and/or "substitutive actions," which may vary considerably according to the resourcefulness of the operator and the disposition of the subject to accept some or other asseverations.

The concept of "substitutive action" was introduced by Liébeault (56), who distinguished three different therapeutic actions in suggestion: substitutive action, disturbing action, and corrective action. Substitutive action consists in withdrawing the subject's attention from his disease or pain by directing it to some other idea or situation. Among other illustrative examples, Liébeault relates how Pascal recovered from an intense toothache by concentrating on the solution of the problem of the cycloid curve.

As an interesting example of combinations of rationalizations and substitutive action, we can cite a procedure successfully applied by Dr. E. Fodor (57), who, in order to make dental work painless, withdraws the patient's attention from this work, making him press his thumb strongly against the chair, giving him at the same time rationalizations to this respect, which vary according to the individual case.

Sometimes a patient who has responded positively to the test of finger-compression or pricking of the skin nevertheless declares that he feels pain as soon as the dental work is started or even while the dentist has not yet touched the tooth with the drill.

Such groundless pains, arising solely from pre-existing associations with dentistry, may mislead the operator as regards the existence of the hypnotic state and the capacity of the subject to achieve analgesia.

In view of such a possibility, it is

better to begin by working on insensitive teeth or even to simulate that work is being done.

During this feigned work, the dentist continues telling the subject to relax, that he does not feel pain, that he is behaving admirably, that he can achieve a still deeper analgesia, etc., with the corresponding rationalizations. Such a psychological maneuver, which may be compared with the use of placebos, makes it possible for the dentist not only to recognize ungrounded pains, but also to create the right disposition in the patient to achieve a better relaxation, which in its turn will increase the probabilities of achieving analgesia.

The following is a typical example of such "phantom" pains. A nine-year-old boy, who already had traumatic dental experience, had several caries to be treated. Under a hypnotic state, the tests of compression of a finger and pricking of the skin were clearly positive. The rationalized suggestion was given that he would tolerate well the "cleaning" of one of his teeth and that the noise of the drill would not annoy him. (The dental work was performed in this case, as in all our experiments with children, by Dr. Clotilde M6ndola.)

In spite of the positivity of the preceding tests for analgesia, and of all subsequent suggestions, approaching the tooth was sufficient to make the child cry under the hypnotic state, declaring that the dentist was hurting him. The interesting fact was that, even as he cried, he paid no attention whatever to our extremely strong compression of his little finger.

Such situations are very frequently observed and typical in children, for whom the elimination of fear of dental work is more important than the elimination of pain. Unlike pain, such fear cannot be abolished by means of simple hypnotic suggestions, since these suggestions cannot overcome the con-

victions which have been deeply incorporated by the person. In order to eradicate this fear, it is necessary to create a situation which will convince the child that its fear is not justified. A very effective procedure consists in letting the child see how another small patient tolerates the same kind of dental work with no discomfort. This other child may even be playing a role.

Sometimes, the distrust of the dentist and his surroundings prevents the patient, whether child or adult, from having a positive response to the test of finger compression or pricking of the skin. In a different environment—for example, connected with experimentation or surgery,—the same person may react quite differently.

Obviously, this same negative response may also be found when the subject has not achieved the hypnotic depth he needs for analgesia.

In both cases, the simulated work is helpful, since it dispels the patient's fears, which in its turn, helps the patient to develop a deeper hypnotic state.

Finally, there is a group of patients to whom the dentist may have dedicated a relatively long time, but who do not seem to have entered the hypnotic state. These subjects fidget in the chair, open and close their eyes, move their head, etc. Still the test for analgesia should be made, since sometimes the operator may be surprised to find a complete analgesia. This happens quite often in children.

Whenever a patient requires more than the usual time to achieve or deepen the hypnotic state, he should be advised to practice relaxation at home. This will facilitate the development of the hypnotic state in the following sessions.

In the more difficult cases, the decision of resorting to a chemical anesthetic to reinforce an insufficient hypnotic analgesia will depend fundamentally on the dentist's interest in achiev-

ing hypnotic analgesia and on the time he can spare for this purpose (39).

* * * * *

The induction of the hypnotic state, as well as the aspect of the person who experiences it, has peculiarities that differ in children from adults. This is understandable, since in one case, the subject is in the process of rapid psychophysiological development, and in the other case, a mature individual.

Even in childhood there are variations in the achievement and the aspect of the hypnotic state, according to the age-level. For purposes of hypnodontia, we are particularly interested in the peculiarities of children from 5 to 10 years of age.

If we observe the external aspect of a child under a hypnotic state that is sufficiently intense for the attainment of dental analgesia, we may find that the behaviour of the subject is so normal, that even an experienced operator may hesitate to say whether the child is in a hypnotic state or not. The child is likely to wriggle in the chair, to keep its eyes open, and to reveal curiosity about all that is being done, looking around and asking questions as to how long he must sit there.

If a layman saw a child in such a condition tolerating perfectly dental work on a sensitive tooth, he would refuse to believe that the patient was in a hypnotic state, thinking that the work had been made painless in some other way to deceive him.

But the fact should not be considered surprising, for we all have seen how, under normal circumstances in everyday life, a mother applies certain procedures of her own, in combination with caresses, to alleviate the pain of her child when it is hurt. She may punish the object against which the child hit itself, or blow upon the sore place, or rub it gently, etc. (40), giving at the same time the suggestion that the pain will disappear. If there is a

normal relationship between the mother and the child (excluding especially over-protection), the analgesic effect is almost immediate and the child runs off to play.

The fundamental requisite for hypnotic induction in children is to gain their confidence (41, 42). Unfortunately, the dentist's consulting room, full of shining metal and with frightening associations (coming from the child's own experience or from hearsay) is certainly not the environment to inspire confidence. It is not advisable to show the child the empty consulting-room and to explain the use of each of the instruments; it is necessary to show the office in full activity, preferably with some child patient being treated and not complaining at all.

The normal procedure for hypnotic induction in children consists in training them to achieve relaxation, by means of a procedure that is very similar to the one employed with adults. Only some few details must be changed to adapt it to children.

It must be explained to the child, in terms it can understand, that it will be taught to go very limp and soft, so that it will not feel any discomfort when its tooth is being cleaned or pulled at.

To make the small patient understand what we mean by relaxation, it is best to have him experience the opposite condition, telling him to press his arms very hard against his chest, press them with all his might, and then let them fall limp. This may be repeated twice or thrice, till the arms fall with a complete muscular relaxation. Then the patient is told that his arms are pleasantly loose, that he is to loosen up his neck, his face, etc., continuing as with adults.

After this, analgesia is suggested and the test of compression of a finger or pricking of the skin is performed. Even if the child is moving and has its eyes open, this test may be positive. The patient is then given the suggestion of

analgesia in the mouth, accompanied by adequate rationalizations.

Obviously, it is more difficult to carry out all the hypnodontic preparation in the consulting room, with its metallic objects and a chair that is often uncomfortable for little ones. Therefore, it is preferable to prepare the child outside the dentist's office.

The following particularly interesting case, related to this preparation, is worth reporting:

One of our patients who had been receiving psychotherapy asked us if we could induce the hypnotic state in her two little daughters, Susy, age 6, and Mela, age 8, to make a dental treatment painless.

First she brought the smaller girl alone, because the other was in bed with a cold. We found it very easy to gain the child's confidence and induce the hypnotic state, since we had seen her previously several times. Five minutes were sufficient to obtain analgesia to a very strong compression of her little finger.

The following interview took place four days later. The mother brought her two daughters and told us that, on her own initiative, Susy had asked her elder sister to sit down and play at being "all limp", applying exactly the same procedure that had been used with her, to the extent of imitating to perfection not only what was said, but even the tones. She achieved analgesia to the compression of the finger, which was confirmed by the amazed parents.

We requested the girls to demonstrate their abilities by making each other relax. This they did with pleasure and pride. Their demonstration gave us the idea that they might be able to do the same in the dentist's office, for the purpose of achieving analgesia of the mouth. So we gave them some instructions as to what they should say when the doctor was

cleaning the tooth of one of them with the drill.

Following these instructions, the girls said to one another during the whole session of dental work, "you are very limp and soft . . . you don't feel anything bad . . . doctor is working very gently . . . go softer and softer . . . you are all soft . . . you are a very good little girl . . . you are a champion . . ."

The result was brilliant; neither of the girls had the slightest difficulty in tolerating the dental work. We believe this to be the first case of its kind in hypnodontic practice, since we have found no similar case in literature.

This experiment reveals the important fact that the task of a dentist with children may be considerably facilitated if he explains to the parents of the patient, or to some relative, the principle for achieving relaxation, so that they may help to prepare him for the dental work. The dentist will then receive a hypnotically prepared patient.

Such a preparation of patients outside the dentist's consulting room may also be applied successfully with adults. This will save the dentist much time.

It may be feasible to organize a center for the preparation of patients for hypnodontic analgesia. The dentist would send his more difficult patients to such a center, and they would return to him, after preparation, with a "transmission of hypnotic contact".

We have already made such transmissions of hypnotic contact to dentists who had no experience whatever with hypnotic induction or hypnodontia. These dentists found no difficulty in adapting themselves to the situation and could continue using hypnodontia in subsequent treatments without our help.

The procedure of transmitting hypnotic contact is applicable, not only for hypnodontic purposes, but also in psy-

chotherapy, where the collaboration of a parent or friend of the patient, under the therapist's directions, may be very helpful (4, 43, 44).

It is most important to keep in mind that neither the child nor the adult under the hypnotic state is an automaton who will fulfill all orders (45). A child sitting in the dentist's chair may not close its eyes and, frightened by a change of instruments, may come out of the hypnotic state, consequently losing the analgesia. It is advisable to keep the tray of instruments out of the child's sight.

When a change of instruments has caused the child to come out of the hypnotic state, it becomes necessary to induce this state anew, in a tranquillizing or authoritarian manner, according to the needs of the case, not forgetting to begin anew with simulated work, till the dentist is sure that the patient has attained oral analgesia.

There is a special group of children for whom the procedure of hypnotic induction through relaxation cannot be applied. These are the over-protected ones, often the only child in their family, spoiled and capricious. The authoritarian procedure of hypnotic induction is alone effective with them, even carried to the extreme recommended by Woolman and Jacoby (46) who take the child roughly, set it on the chair, with the order SLEEP! Naturally, this can only be done when the parents allow the dentist to assume such an attitude with the understanding that it is for their over-protected child's benefit.

* * * * *

There are still some residues from the period of decadence of hypnotism (33), when hypnosis was understood as the domination of a supernatural quality of one person over another, and it was thought that suggestion had a magical and invincible power and could bring about organic changes.

Among such residues are certain completely superfluous suggestions, alien to the nature of the hypnotic state, that are still given in various clinical applications of hypnotism, including hypnodontia. Such are the suggestions to arrest the bleeding after dental extraction, to have amnesia for dental work, to have no post-operative discomfort, for healing rapidly, and even for entering the hypnotic state more rapidly in the following interview.

When a direct suggestion of this nature seems to be carried out, this is due, as has been indicated by Gorton (47) and others, not to the direct suggestion in itself, but to the psychophysiological characteristics of the emotional state in which the subject finds himself (8).

The hypnotic state induced by a relaxation procedure brings about *per se*, and with no suggestion whatever, a decrease in the adrenalin in the blood (9) with a lower blood pressure and a decrease in the loss of blood from small vessels. We have already insisted on the relationship between the emotional condition of the subject and the amount of blood lost after dental extraction.

Similarly, the reduction in the flow of saliva is not produced by direct suggestion but by the emotional condition or by certain associations which the person may have in relation to salivation (42). If the flow of saliva is not reduced spontaneously in the hypnotic state, it becomes necessary to create a psychological situation which will lead to this effect.

The case of hypnotic amnesia is to a certain point different, since this phenomenon corresponds to a personal trait that is revealed in a deep hypnotic state. The subject who has this peculiarity may forget temporarily, for minutes or hours, what happened to him under the hypnotic state, even though no suggestion was given in this

respect. The apparent fulfilment of the suggestion is, in these cases, a mere coincidence.

The absence of post-operative pains and a more rapid healing are not produced by suggestions either, but result from the emotional condition of the patient after the operation.

It must be remembered that the intensity of the hypnotic state declines rapidly after the termination of the session, like any emotional state after its cause has been removed (45). This decline brings about the loss of the psychophysiological characteristics due to the intensity of the emotional state, analgesia included. Obviously, the suggestion of feeling no pain will be ineffectual if there is no hypnotic state.

When we find a certain post-operative analgesia and a greater speed in healing, these are not caused by the corresponding direct suggestion received under the hypnotic state, but by a favorable emotional condition following the hypnotic experience. Such a favorable emotional condition may be reactivated by personal contacts between the patient and the operator during the post-operative period, even over the telephone. Similar reactivations may be caused by other people who have, or can establish, constructive interpersonal relationships with the patient, giving him rationalizations and even appropriate suggestions.

Contrary to a concept sustained in the past, numerous investigations have demonstrated that lasting suggestions are those that have been given under a light hypnotic state (4, 45, 48, 49), which have been adequately rationalized, and are in agreement with the subject's emotional disposition at the moment.

Suggesting to a patient that he will enter a deeper hypnotic state in the next interview is also groundless, because the deepening of the hypnotic state in the following session will not

result from this suggestion but will depend on the patient's readiness (32).

When the hypnodontic session has been finished, it is not necessary to state formally: "Now you will come out of the hypnotic (or relaxed) state!" Normally, it is enough to let the subject understand that the work is finished, giving him at the same time, those rationalizations that will help him to maintain a favorable emotional condition during the post-operative period.

Some patients, who achieve an exceptionally profound, even stuporous, hypnotic state, may need a certain length of time to come out of the hypnotic condition. They may be told, on any pretext, to remain a while in the waiting room.

If the subject does not want to come out of the hypnotic state, it is most effective to proceed with him in an authoritarian manner, as with a capricious child. This can easily be done in an environment of experimentation, but may not be feasible in the consulting room. In the latter case, the subject may be left to come out of the hypnotic state at will. Usually, he will take no more than an hour to do so (18, 45). To speed him up, it is possible to resort to some physical stimulation, for example, directing the air from a ventilator towards him, or passing a damp towel over his face. Or he may be given any rationalization, saying that the consulting room is to be closed; that he must hurry in order not to miss his bus, etc.

* * * * *

There may be the rare coincidence, when a patient suffering from narcolepsy (or hypnolepsy, or Gelineau's disease) has his crisis of sleep precisely when he is in the dentist's chair or after the hypnodontic session.

Narcoleptic attacks last minutes or hours, with the very infrequent possi-

bility of a narcoleptic state, in which sleep may persist during several days.

It is obvious that the hypnotic state has no relation whatever to such a crisis, but narcoleptic patients have been the basis for sensational publications regarding hypnotized people whom the hypnotist could not waken from a several days' sleep (45).

Those equally rare patients who suffer hallucinatory psychoses can evidently experience hallucinations after having come out of a hypnotic state, though this has nothing to do with their hypnotic experience.

In hypnodontic practice, it is much easier to find people who reveal a spontaneous abreaction under the hypnotic state, expressed by crying, complaints, shrieks, or laughter (10). This may happen when a person has been recently emotionally upset or has some lasting emotional disorder. Such an abreaction is understandable, because the hypnotic state reduces inhibitions, permitting a more natural and spontaneous form of behavior.

The dentist must treat these patients as anybody might treat a person who is in need of being understood and reassured in everyday-life circumstances.

There is another category of patients who are particularly interesting. These are hysterical people, whose basic characteristic consists in a tendency to present the most varied somatic symptoms—such as paralysis, deafness, blindness, headache, asthma, etc., of psychogenic origin. In hysteria, these symptoms are very mobile, being easily substituted one by another after any strongly emotional experience, such as a scare, anger, intense joy, an emotion experienced in the course of a ritual, etc.

This peculiar facility with which hysterical people acquire and lose symptoms explains the sensational reports both about the harm done by an "evil eye" and some "miraculous cures," such as took place in medieval

times under the "royal touch" and may be found, under diverse circumstances, today. The supposedly miraculous disappearance of a hysterical symptom is far from being equivalent to the recovery of the patient, since the symptom will return after a time or will be substituted by another disorder. In a classical case, the god-daughter of the Empress Maria Theresa of Austria, a famous blind pianist, was apparently cured by Mesmer's "magnetism," but soon became blind again, discrediting Mesmer in Vienna.

When a hysterical person has been deliberately hypnotized, even if only once in his life, he is very likely to put the blame for any symptom he may have during the rest of his existence, on the fact that the operator may have given him some suggestion and forgotten to remove it. This is a complete absurdity. There is no doubt that it is possible to suggest one or another symptom to a hysterical subject under the hypnotic state. This is precisely the basis of treatment by symptom-substitution. For example, the paralysis of an arm may be substituted by the paralysis of a finger (50). But the acquisition of new symptoms under a deliberately induced hypnotic state is practically insignificant, a mere drop in an ocean, as compared with the frequency with which hysterical people attain, lose, and substitute symptoms in the course of intense emotional experiences in their daily lives.

The dentist must be aware of the possibility of meeting hysterical patients, but he need not fear them, because it is not up to him to change their symptoms deliberately. Even if one of these patients acquires a new symptom after hypnodontia, the dentist need not feel responsible for this.

The problems related to patients with narcolepsy, hallucinatory psychoses, hysteria, or tendency toward abreactions are of very little significance, beside the problems created by

patients with hemophilia, adrenalin intolerance, or who are likely to have a syncope while undergoing general or local chemical anesthesia.

Because of their rapid hypnotizability and the ease with which they achieve spectacular phenomena, hysterical people have been not only the favorite subjects of theatrical hypnotists, but were sought by some research workers who have exerted deep influence on the history of medicine, like Charcot, Pierre Janet, and Pavlov (33). These great authorities tried to define the nature and the attributes of the hypnotic state in general on the basis of observations of a restricted number of hysterical subjects. This was a serious mistake, equivalent to an attempt to establish the laws of blood clotting in normal people by observing only cases of hemophilia.

From such studies of hysterical subjects, Charcot deduced that the hypnotic state was of a pathological nature; his disciple, Pierre Janet, came to the conclusion that hypnotism is the domination of one person over another, the latter being a helpless automaton; and Pavlov came to believe that the hypnotic state is a partial sleep and that suggestion has "a considerable and almost invincible power" (51).

The asseverations of such renowned professors turned into dogma, persisting in scientific environments up to the last years. Even today, we find their aftermaths in the superfluous suggestions that are commonly given and in the convictions about certain supposed dangers of hypnotism.

Regarding such dangers, one often finds scholastic declarations, products of their authors' imagery, or arising from what Erickson (52) has called "artifacts of the laboratory". They may also result from observations of exceptional cases followed by wrong conclusions, for, as Duprat (18) indicates, "When dealing with psychopaths, hysteria cases, etc., there may be dra-

matic episodes that do not depend on the hypnotic experience, but have provided material for some authors to think so."

It may be said that a notable step toward contemporary hypnotism was made in 1933, when Hull (53) insisted on the need of radically revising the prevalent concepts regarding hypnotism, because of their disagreement with reality.

Another no less momentous stage in the development of modern hypnotism was accomplished in 1948, with the organization of scientific societies dedicated to the study of hypnosis, with their respective journals, the first of which was *The British Journal of Medical Hypnotism*.

Today the hypnotic state is understood not as a pathological condition or a form of sleep but as an integral part of everyday living. In the hypnotic state there is neither domination nor automatism, and the role of direct suggestion is unimportant.

With this understanding of the hypnotic state, its supposed dangers are nothing else but the dangers that may result from any constructive interpersonal relationship in daily life, as the ones between teachers and students, priests and parishioners, parents and children, friends, etc. (45).

* * * * *

It should not be considered surprising that the old, unfounded and dogmatic concepts regarding hypnotism should still persist, because in all fields of science, the old concepts, however absurd they may have been, have co-existed along with the new ones.

Thus, after Copernicus had discovered the rotation of the earth around the sun, many universities continued for decades to teach the old Ptolemaic system, postulating that the sun and stars rotate round the earth.

Something similar is happening in relation to hypnotism. The situation

may be illustrated by a very significant analysis made by the Society of Clinical and Experimental Hypnosis of all the books and articles on hypnotism which appeared in 1950 and 1951 (54). This analysis revealed that out of 150 of these publications, only 35 were worthy of being abstracted, because the rest had nothing to do with con-

temporary hypnotism, merely repeating the erroneous ideas, the fantasies and the prejudices of the past century. Even the abstracted articles contained some of these old notions.

Obviously the literature on hypnodontia can do no more than reflect the general situation in the bibliography on hypnosis.

REFERENCES

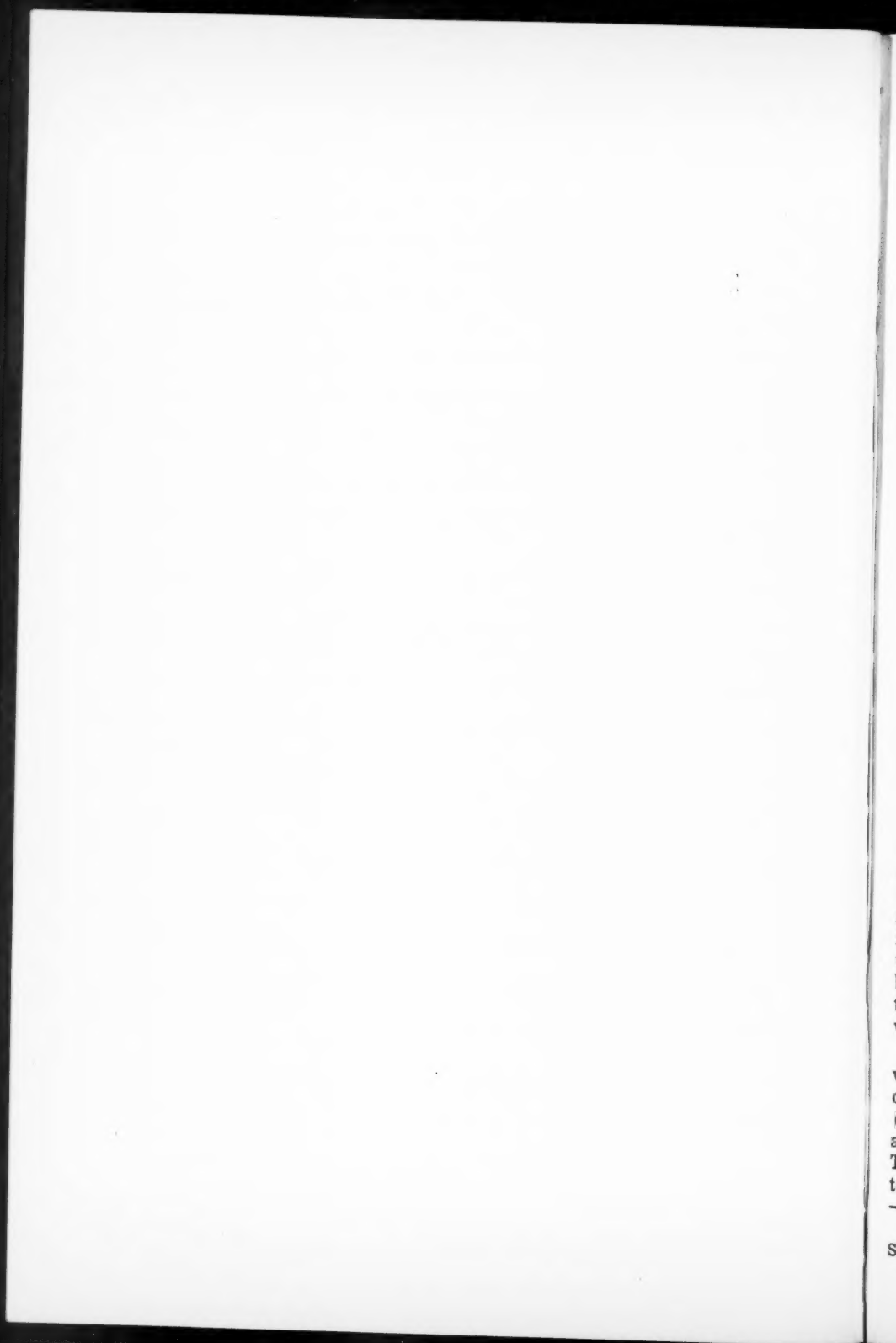
1. Solovey, G., and Milechnin, A. Concerning hypnosis in everyday life. *Dis. nerv. Syst.*, 1957, **18**, 468-473.
2. Guze, H. Hypnosis as emotional response: a theoretical approach. *J. Psychol.*, 1953, **35**, 313-328.
3. Solovey de Milechnin, G. Concerning a theory of hypnosis. *J. clin. exper. Hypnosis*, 1956, **4**, 37-45.
4. Solovey, G., and Milechnin, A. A dialectic approach to the nature of hypnosis. In press, *Brit. J. med. Hypnot.*, 1958.
5. ———. Concerning the nature and treatment of stuttering. In press, *Brit. J. med. Hypnot.*, 1958.
6. ———. Concerning some principles of hypnotherapy. *Brit. J. med. Hypnot.*, 1958, **9**, No. 1, 17-25; No. 2, 18-24; No. 3, 31-38.
7. ———. Concerning autohypnosis and some relevant points. In press. *Brit. J. med. Hypnot.*
8. ———. Concerning the nature of hypnotic phenomena. *J. clin. exper. Hypnosis*, 1957, **5**, 67-76.
9. Levgarg, J. J. Hypnosis—a useful therapy to physicians and dentists. *Brit. J. med. Hypnot.*, 1953, **5**, No. 2, 34-39. (Reprinted from *Dent. Items of Int.*, Oct., 1952.)
10. Solovey de Milechnin, G. Concerning the attributes of the hypnotic state. *J. clin. exper. Hypnosis*, 1956, **4**, 115-126.
11. ———. Concerning the concept of hypnotic depth. *J. clin. exper. Hypnosis*, 1955, **3**, 243-252.
12. ———. Concerning the "stuporous" trance state. *Brit. J. med. Hypnot.*, 1956, **7**, No. 4, 35-39.
13. Moss, A. Hypnodontics (hypnosis in dentistry). *Brit. J. med. Hypnot.*, 1953, **5**, No. 1, 34-39.
14. Burgess, T. O. Hypnodontia—hypnosis as applied to dentistry. *Brit. J. med. Hypnot.*, 1951, **2**, No. 3, 48-55. (Reprinted from *CAL Magazine*, March, 1951.)
15. Rosen, H. Hypnosis. A psychiatric discussion. *J. Amer. dent. Assn.*, 1957, **54**, 808-818. (Reprinted with supplementary material in *J. clin. exper. Hypnosis*, 1957, **5**, 101-131.)
16. Solovey, G., and Milechnin, A. *El hipnotismo de hoy*. Buenos Aires, Ediciones Dyaus, 1957.
17. Mears, A. The clinical estimation of suggestibility. *J. clin. exper. Hypnosis*, 1954, **2**, 106-108.
18. Duprat, E. F. *Hipnotismo. Técnicas e indicaciones terapéuticas*. Buenos Aires, 1956.

19. Conn, J. H. Hypnosynthesis. III. Hypnotherapy of chronic war neuroses with a discussion of the value of abreaction, regression, and revivification. *J. clin. exper. Hypnosis*, 1953, 1, 29-43.
20. Heron, W. T. Instruction in hypnosis. In J. M. Schneck (Ed.), *Hypnosis in modern medicine*. Springfield, Ill., Charles C. Thomas, 1953.
21. Shaw, S. I. Behavior control by suggestion. *Brit. J. med. Hypnot.*, 1956, 8, No. 1, 25-35. (Reprinted from *J. Dent. for Children*, 1955.)
22. Weinstein, J. H. Hypnosis in dentistry. In J. M. Schneck (Ed.), *Hypnosis in modern medicine*. Springfield, Ill., Charles C. Thomas, 1953.
23. Dick-Read, G. *Parto sin dolor* (translated by Zadunaiski and Dabini). Buenos Aires, Ed. Central, 1956.
24. The journal *Akusherstvo i Ginekologiya*, Moscow, 1956, No. 3.
25. Nikolaiev, A. P. *El parto sin dolor* (translated by Itzigsohn). Buenos Aires, Ed. Cartago, 1957.
26. Solovey, G., and Milechnin, A. Concerning the psychotherapeutic interpersonal relationship. In press, *Dis. nerv. Syst.*
27. Ament, P. Psychotherapy in patient relaxation. *Brit. J. med. Hypnot.*, 1954, 6, No. 2, 37-44.
28. Schultz, J. H. Autogenic training. *Brit. J. med. Hypnot.*, 1954, 6, No. 2, 33-35.
29. Mellars, N. W., and Herms, F. W. Investigations of neuropathologic manifestations of oral tissues. *Am. J. Orthodontia*, 1947, 33, December.
30. Bernheim, H. *Automatisme et suggestion*. Paris, Alcan, 1917.
31. Erickson, M. H. *Seminar on hypnosis* (mimeographed). Los Angeles, 1953.
32. Solovey, G., and Milechnin, A. Concerning the induction of the hypnotic state. *J. clin. exper. Hypnosis*, 1957, 5, 82-98.
33. ———. Concerning the period of decadence of hypnotism. In press, *Brit. J. med. Hypnot.*
34. True, R. M. Obstetrical hypnoanalgesia. *Brit. J. med. Hypnot.*, 1956, 8, No. 1, 3-7. (Reprinted from *Am. J. Obst. Gynec.*, 1954, 67, 373-376.)
35. Watkins, J. G. Trance and transference. *J. clin. exper. Hypnosis*, 1954, 2, 284-290.
36. Conn, J. H. Hypnosynthesis. Hypnosis as a unifying interpersonal experience. *J. nerv. ment. Dis.*, 1949, 109, 9-24.
37. Carnegie, D. *How to win friends and influence people*. New York, Simon and Schuster, 1940.
38. Rosen, H. *Hypnotherapy in clinical psychiatry*. New York, Julian Press, 1953.
39. Solovey de Milechnin, G. Concerning hypnotizability. *Brit. J. med. Hypnot.*, 1956, 8, No. 2, 30-34.
40. ———. Concerning some points about the nature of hypnosis. *J. clin. exper. Hypnosis*, 1956, 4, 83-88.
41. Ambrose, G. Hypnosis in child psychiatry. In J. M. Schneck (Ed.), *Hypnosis in modern medicine*. Springfield, Ill., Charles C. Thomas, 1953.
42. Shaw, S. I. Psychosomatic sleep applied to dentistry. *Brit. J. med. Hypnot.*, 1952, 3, No. 4, 59-64. (Reprinted from *J. Dent. for Children*, 1st quarter, 1951.)
43. Solovey, G., and Milechnin, A. Concerning some further principles of hypnotherapy. In press, *Brit. J. med. Hypnot.*
44. ———. Concerning the treatment of enuresis. In press, this JOURNAL.
45. ———. Concerning hypnotic and posthypnotic suggestions. *Brit. J. med. Hypnot.*, 1956, 8, No. 3.

46. Woolman and Jacoby. *Seminar on hypnosis* (mimeographed). Los Angeles, 1953.
47. Gorton, B. E. Physiologic aspects of hypnosis. In J. M. Schneck (Ed.), *Hypnosis in modern medicine*. Springfield, Ill., Charles C. Thomas, 1953.
48. Volgyesi, F. A. "School for patients," hypnosis-therapy and psycho-prophylaxis. *Brit. J. med. Hypnot.*, 1954, **6**, No. 1, 25-35.
49. Levina, Ts. A., and Terletskaia, T. M. [Non-medical treatment of hypertension and other internal diseases with sleep therapy.] *Sovetskaia Meditsina*, No. 10, Oct. 1951, 17-19.
50. Erickson, M. H. Special techniques of brief hypnotherapy. *J. clin. exper. Hypnosis*, 1954, **2**, 109-129.
51. Pavlov, I. P. *Los reflejos condicionados aplicados a la psicopatología y psiquiatría*. Montevideo, Ed. Pueblos Unidos, 1955.
52. Erickson, M. H. An experimental investigation of the possible anti-social use of hypnosis. *Psychiatry*, 1939, **2**, 391-414.
53. Hull, C. L. *Hypnosis and suggestibility*. New York, Appleton-Century, 1933.
54. Society for Clinical and Experimental Hypnosis. *The annual review of hypnosis literature*. Vols. I and II (combined), 1950-1951. New York, Woodrow Press, 1953.
55. Maiorov, F. P. [Physiologic nature of the somnambulistic phase of hypnosis.] *Fiziol. Zh. SSSR*, 1950, 649-652.
56. Liébeault, A. A. *Thérapeutique suggestive*. Paris, 1891.
57. Fodor, E. Buenos Aires. Personal communication, April 1958.

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PERSONALITY AND HYPNOTIC SUSCEPTIBILITY

by *André M. Weitzenhoffer, Ph.D.,¹ and Geneva B. Weitzenhoffer, B.A.*

Many attempts have been made in past years to correlate suggestibility and hypnotic susceptibility to various aspects of the personality of subjects. This work has been previously reviewed by Hull (4) and by Weitzenhoffer (6). Although some relationships have been reported, the data as a whole have been conflicting and not particularly informative. The correlation which perhaps stands out most clearly is that neuroticism correlates with suggestibility, a fact known as far back as Charcot. This particular bit of information is certainly welcome, but tells only part of the story. There are many individuals who can be hypnotized quite deeply and who certainly are not neurotic, or at least are not to a degree comparable to that of the experimental groups which have led to the above correlation. Perhaps it is the presence of a diathesis toward neurosis which is critical here, but until this is a demonstrated fact it seems best to assume that a neurotic personality is not the only high correlate of suggestibility or of hypnotic susceptibility. In the meantime the question remains whether or not any personality characteristics exist which would allow one, unambiguously at least, to separate on their basis persons who have a high susceptibility or suggestibility from those who do not.

Recently, in connection with an investigation of the possible relationship of femininity to hypnotic susceptibility (5), the authors had the opportunity to administer the Guilford-Zimmerman Temperament Survey (3) and the Cattell Sixteen Personality Factor Ques-

tionnaire (2) to the subjects, thereby obtaining 26 personality measures, not counting three additional measures of femininity. The present article will be concerned only with 24 of these variables, the femininity data having already been reported (5).

METHOD

For a detailed description of the apparatus, subject sample, and procedures used, the reader will be referred to our previous report (5). To summarize here, a total of 200 subjects, 100 males and 100 females, was used. Half of each sex group was tested for hypnotic susceptibility by a male hypnotist, and the other half by a female hypnotist. Hypnosis was induced and its depth measured by essentially the same technique and scale as described by Friedlander and Sarbin (3). One single attempt at inducing hypnosis was made, and the maximum depth of hypnosis attained was taken as a measure of the subject's susceptibility to hypnosis. Approximately one week prior to testing his susceptibility each subject was given a test battery including the Guilford-Zimmerman and the Cattell tests. The subjects were assigned at random to each hypnotist within the limitations of maintaining the four experimental groups equal in number.

RESULTS

Since the sex of the hypnotist had no influence upon the subjects' susceptibility (5), the two subsamples of female subjects were pooled together for analysis, and similarly with the two male subsamples. A test for curvilinearity was made with respect to the relationship between susceptibility and four of the personality factors selected

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CATTELL FACTORS														
A	B	C	E	F	G	H	L	M	N	O	Q ₁	Q ₂	Q ₃	Q ₄
.09	.01	-.02	-.17	-.04	.06	.03	.16	.00	-.03	.05	.13	-.02	.12	.06

GUILFORD-ZIMMERMAN FACTORS									
	G	R	A	S	E	O	F	T	P
	-.18	.11	-.03	-.05	-.04	.02	.09	.18	-.08

TABLE 1. Pearson correlations of hypnotic susceptibility with the Cattell and the Guilford-Zimmerman factors (exclusive of factor I from the Cattell test and factor M from the Guilford-Zimmerman test) for 100 female subjects.

CATTELL FACTORS														
A	B	C	E	F	G	H	L	M	N	O	Q ₁	Q ₂	Q ₃	Q ₄
-.06	-.16	.06	.09	-.08	-.05	.12	-.13	-.07	-.13	-.17	.02	-.03	.05	-.18
GUILFORD-ZIMMERMAN FACTORS														
G	R	A	S	E	O	F	T	P						
.05	-.00	.06	.06	.10	.04	-.06	-.06	.03						

TABLE 2. Pearson correlations of hypnotic susceptibility with the Cattell and the Guilford-Zimmerman factors (exclusive of factor I from the Cattell test and factor M from the Guilford-Zimmerman test) for 100 male subjects.

at random. Since no curvilinearity was evident, it has been considered reasonable to compute Pearson correlations between all factors and susceptibility to hypnosis. This was done separately for the total male and the total female sample, and the results are shown in Tables 1 and 2.

DISCUSSION

Our results show a complete absence of statistically significant relations between the personality variables we studied and hypnotic susceptibility. In a sense it is surprising that out of 26 personality measures not one should have correlated with susceptibility. Part of the answer may lie in results reported a few years ago by Willey (8), but which, unfortunately, came to our attention too late to be taken into consideration. Willey also studied the relation of a large number of personality measures to hypnotic susceptibility. He too obtained negative results when he examined his data in terms of the total subject sample. However, upon re-analyzing the data after classifying the subjects into three types on the basis of certain other observations, he

found highly significant score differences existed among the three groups on some of his measures. As it turns out, his types A and B are closely related to what has been previously described as "passive" and "active" subjects respectively (6, 7), and type C consists of all insusceptible subjects. Willey has shown how the pooling of the three groups would naturally lead to negative results in his first analysis. He has further pointed out how some of the ambiguity which exists in the literature with regard to personality correlates of susceptibility may be due to the lack of recognition that subjects of different types are being used. The selection procedures employed by various investigators, as well as the source of subjects, often have inherent features which make it a near certainty that the majority of subjects will belong to one type rather than the other. In our own case our selection procedure and source have made it likely that we would have a completely heterogeneous sample containing all three types. It is then perhaps not so surprising that we were unable to find any correlations. Unfortunately, our data

do not allow the above three-fold breakdown to be made, and it is impossible to test the correctness of this explanation.

Willey's observations may also account for the fact that, quite in contrast to us, Barber (1) recently reported finding significant correlations between susceptibility and factors A, S, E and O of the Guilford-Zimmerman Temperament Survey. With as small a sample as he used (N of 18 as compared to our N of 200) it is entirely possible that his experimental procedures would have led to his using a relatively homogeneous group of subjects of one type. As a rough guess, and from Barber's description of the subjects, we would say that his were predominantly of type B, which, if Willey is correct, is probably characteristic of most small samples of hypnotic subjects used for laboratory investigations. Independently of this consideration, there are other possible reasons why our results do not agree with those of Barber. The range of susceptibility with which he worked may have been appreciably different from ours.² It is conceivable that the above factors characterize individuals falling within one range but not another. Our rating of hypnotic susceptibility was probably more severe and our induction technique may have been somewhat less effective, either or both of which features might have influenced the final

² Susceptibility scores ranged from 0 through 17 in our case. The distribution was of J-type with a mean of 4.79, 18.5 per cent of the subjects scoring above 10.

outcome. Of these various possibilities we feel that the first—that is, Willey's results—is the more likely.

SUMMARY AND CONCLUSIONS

1. College students, 100 male and 100 female, fairly representative of the undergraduate population, volunteered as subjects and were hypnotized according to the following schedule: 50 men and 50 women by a male hypnotist, and 50 men and 50 women by a female hypnotist. Hypnosis was induced by the procedure described by Friedlander and Sarbin, and depth of hypnosis was measured using the scale devised by these authors. With the exception of the sex of the subjects and hypnotists, every effort was made to keep other possible variables constant.

2. Prior to hypnotization, each subject was administered the Guilford-Zimmerman Temperament Survey and the Cattell 16 Personality Factors Questionnaire.

3. No significant correlations could be found to exist between 24 factors measured by these two tests and hypnotic susceptibility defined as the maximum depth of hypnosis attained on one attempt to induce hypnosis.

4. It is suggested that the absence of correlation and the general ambiguity which exists in regard to personality correlates of hypnotic susceptibility is perhaps due to the failure to recognize the existence of two basically different types of hypnotic subjects and that, in spite of appearances, meaningful relationships may exist between personality and hypnotic susceptibility.

REFERENCES

1. Barber, T. X. A note on "hypnotizability" and personality traits. *J. clin. exper. Hypnosis*, 1956, 4, 109-114.
2. Cattell, R. B., Saunders, D. R., and Stice, G. *Handbook for the sixteen personality questionnaire*. Champaign, Ill., Institute for Personality and Ability Testing.

3. Guilford, J. P., and Zimmerman, W. S. *Manual of instructions and interpretations for the Guilford-Zimmerman temperament survey*. Beverly Hills, Calif., Sheridan Supply Co., 1949.
4. Hull, C. L. *Hypnosis and suggestibility. An experimental approach*. New York, Appleton-Century, 1933.
5. Weitzenhoffer, A. M., and Weitzenhoffer, G. B. *Sex, transference, and susceptibility to hypnosis*. *This JOURNAL*, 1958, 1, 15-24.
6. Weitzenhoffer, A. M. *Hypnotism: an objective study in suggestibility*. New York, Wiley, 1953.
7. ———. *The general techniques of hypnotism*. New York, Grune and Stratton, 1957.
8. Willey, R. R. *An experimental investigation of the attributes of hypnotizability*. Unpublished Ph.D. dissertation, University of Chicago, 1951.

FURTHER CONSIDERATIONS OF TIME DISTORTION: SUBJECTIVE TIME CONDENSATION AS DISTINCT FROM TIME EXPANSION¹

by Milton H. Erickson, M.D., and Elizabeth M. Erickson, B.A.

Shortly after the publication of the first edition of this book, one of the authors of this new section (E.M.E.) noted a definite oversight in the development and explication of the concept of time distortion and its clinical applications. This new section is intended to correct that omission and to clarify, from a slightly different angle, the concept of time distortion and other aspects of its clinical application.

In both the experimental and the clinical sections of this book, the concept of time distortion has been developed unilaterally in relationship to the "lengthening" or "expansion" of subjective time. The converse manifestation, that is, the "shortening," "contraction," or "condensation" of subjective time has received no direct recognition or elaboration, except for brief mention in discussions to establish contrast values. However, the implications to be derived from, and the deductions warranted by, the experimental and the clinical sections of this book make apparent that time distortion as an experiential phenomenon may be either in the nature of subjective "time expansion" or its converse, "time condensation."

Though not then recognized as such, the first experimentally and clinically significant instance of hypnotic time condensation known to these writers occurred some years previous to the initial work basic to the first edition

of this book. The situation was that of a young woman trained as an hypnotic subject for the delivery of her first child. No suggestions of any sort had been given her concerning her perception of time except that she would "have a good time" and would "enjoy having her baby."

Nevertheless, spontaneously she experienced the following subjective phenomena:

1. The twenty mile automobile ride to the hospital seemed to be remarkably rapid, despite her repeated checkings of the speedometer, which always disclosed a speed within established limits.
2. The elevator ascent to the maternity floor seemed to be unduly rapid and in marked contrast to the definite slowness of subsequent rides in that elevator.
3. The delivery room preparation of the patient seemed barely to begin before it was completed.
4. Nurses seemingly dashed in and out of the hospital room, orderlies appeared to run rapidly up and down the corridor, and everybody apparently spoke with the utmost rapidity. She expressed mild wonderment at their "hurried" behavior.
5. The obstetrician "darted in and out" of the room, "hastily" checking the progress of her labor, and he seemed scarcely to complete one examination before beginning the next.

6. The minute hand of the bedside clock appeared to move with the speed of a second hand, an item of bewilderment on which she commented at the time.

¹ This article is being published simultaneously as an additional section in the second edition of *Time Distortion in Hypnosis* by Linn F. Cooper and M. H. Erickson, which is published by The Williams and Wilkins Company, Baltimore. The first edition of this book was published in 1954.

7. Finally, she was transferred to the delivery room cart and was "raced" down the corridor to the delivery room, where the minute hand on the wall clock was also "moving with the speed of a second hand."

8. Once in the delivery room, the transfer to the delivery table, the draping of her body, and the actual birth of the baby seemed to occur with almost bewildering rapidity.

Actually the labor lasted a total of three hours and ten minutes and had been remarkably easy and unhurried. Detailed inquiries to the mother subsequent to delivery, supplemented by various pertinent comments she had made during labor, served to furnish an adequate account of the greatly increased subjective tempo of all the activities comprising her total experience. All of this, she explained, had "interested" her "mildly," but she had been much more interested in the arrival of her baby. The interpretation offered at that time of her subjective experience was the simple jocular statement that she "obviously just couldn't wait for the baby."

Cooper's development of the concept of time distortion, however, makes apparent the fact that the patient, in her eagerness to achieve motherhood, spontaneously employed the process of subjective time condensation, thereby experientially hastening a desired goal.

The above case report is a strikingly illustrative example of spontaneous experiential condensation of subjective time. However, this phenomenon is one of common experience in everyday living. We all readily recognize how pleasures vanish on fleeting wings, but, to date, it has been primarily the poet who has best described time values, as witness: "Time travels in divers paces with divers persons. I'll tell you who Time ambles withal, who Time trots withal, who Time gallops withal, and who he stands still withal." (Shakes-

peare, *As You Like It*, Act III, Sc. 2, lines 328 ff.)

A common general recognition is easily given to time condensation in daily living. The vacation is so much shorter than the calendar time, the happy visit of hours' duration seems to be of only a few minutes' length,—indeed, too many pleasures seem to be much too brief. Unfortunately, in the very intensity of our desire to continue to enjoy, we subjectively shorten time; and conversely, in our unwillingness to suffer, we subjectively lengthen time, and thus pain and distress travel on leaden feet.

These spontaneous untutored learnings from everyday experiences suggest the importance of a continued and even more extensive study of time distortion in both of its aspects of subjective expansion and condensation.

In our experience as well as the experience of various colleagues, the ready reversal of the usual or ordinary learnings of subjective time distortions seems to be limited primarily to learnings achieved in relation to hypnosis. In this regard, a wealth of observations has been made on hypnotic subjects in both experimental and clinical situations.

To cite an example, a dental patient, who had an extensive knowledge of hypnosis and who was definitely interested in subjective time expansion, sought hypnotic training for dental purposes. The results achieved did not derive from the actual hypnotic instructions given but were expressive of the patient's own wishes for subjective experiences. Dental anesthesia and comfort were achieved by a process of dissociation and regression, by which she subjectively became a "little girl again and played all afternoon on the lawn." As for the dental experience itself, as she remembered experiencing it subjectively, she adjusted herself in the dental chair, relaxed, opened her mouth and was

astonished to hear the dentist say, "And that will be all today." She surreptitiously checked her watch with his clock and then another clock before she could believe that an hour had elapsed. Yet, at the same time she was aware of the prolonged dissociative regressive subjective experience she had had as a child for an entire afternoon.

Thus, within the framework of a single total experience, both subjective time expansion and time condensation were achieved to further entirely separate but simultaneous experiences, that is, simultaneous as nearly as the writers can judge.

Another subject, untrained in time distortion, was employed repeatedly to demonstrate hypnotic phenomena at the close of an hour long lecture. After the first few occasions, the subject developed a trance state at the beginning of the lecture which persisted until the demonstration was concluded. By chance it was discovered that thereafter the subject inevitably misjudged the lapse of time by approximately the duration of the lecture. After repeated observation of this manifestation, inquiry elicited the significant explanation from the subject, "Oh, I just stopped the clock. I didn't want to wait all that time while you lectured." By this she meant that she did not wish to experience the long wait for the close of the lecture. Instead, she had arrested subjectively the passage of time and thereby reduced it to a momentary duration. Or, as she expressed it in her own words, "You see, that way, you start the lecture, I go into a trance and stop the clock, and right away the lecture is over and it is time for the demonstration. That way I don't have to wait." In other words, she had subjectively arrested the passage of time and thereby had reduced the duration of the lecture to a seeming moment.

That report is but one of many sim-

ilar accounts that could be cited. One of us (M.H.E.) has repeatedly encountered over a period of years, while assisting in conducting post-graduate seminars on hypnosis, volunteer subjects, themselves physicians, dentists or psychologists, who have spontaneously developed time condensation. Furthermore, they have done this without previous training in hypnosis or in time distortion.

Usually the situation in which this manifestation developed was one wherein the teaching needs of the lecture period required the repeated withdrawal of the instructor's attention from the volunteer subject.

One such subject, in a post-trance review of his hypnotic activities in an effort to develop a more adequate understanding of hypnotic phenomena, inquired at length about the nature and genesis of his apparently altered visual perception of the lecture room clock. He explained that, during his trance state, he had been distracted and fascinated by his discovery of a repeated sporadic movement of the minute hand of that clock. This hand, he explained, did not consistently move slowly and regularly. Some of the time it did, specifically, during those periods when the instructor kept him busy at various tasks. When left to his own devices because the instructor's attention was directed to the classroom, he noted that the minute hand "would stand still for a while, then jerk ahead for maybe five minutes, pause, and then perhaps jerk ahead for another fifteen minutes. Once it just slid around a full thirty minutes in about three seconds' time. That was when you were busy using the other subject (a second volunteer). It annoyed me when you kept demanding my attention when I wanted to watch that clock." Inquiry disclosed that his awareness of the passage of time had greatly decreased. In other words, he, too, had "stopped the clock."

Another example of the experiential values of time condensation relates to the experience of a dentist who employed hypnosis extensively in his practice. Unfortunately, in the individuality of his personal technique in maintaining a trance state, he conditioned his patients to a continuing succession of verbalizations. Even more unfortunately, as he became absorbed in the intricacies of his work on the patient, he would find himself unable to verbalize. The result was that his patients would arouse from the trance state, to the mutual distress of both dentist and patient. One of the writers (E.M.E.), on the basis of her own personal experience, suggested that he employ time condensation by teaching it to his patients so that they might abbreviate the time between his verbalizations and thus become unaware of his silences. The results for that dentist were excellent.

Two further instances of the clinical use of time condensation in the therapy of individual patients can be cited. The first of these is the report by one of us (M.H.E.) given before the Arkansas Medical Society in May 1958 on "Hypnosis in Painful Terminal Illness" and accepted for publication in 1959 by *The American Journal of Clinical Hypnosis*. In this report an account is given of the teaching of time condensation, in association with other psychological measures, to a professional man in the last stages of painful terminal carcinomatous disease. The clinical results obtained in this patient definitely indicated a highly significant relief of the patient's distress, a part of which was directly attributable to time condensation. Particularly for this patient did time condensation appear to preclude variously a subjective awareness, memory, and anticipation of pain. The usefulness in this one case suggests the possibility of its utilization as a clinical measure of reducing subjec-

tive awareness of physical distress and pain.

As a final illustration of time distortion involving both subjective time condensation and time expansion in a complementary relationship, a clinical history from the practice of one of us (M.H.E.) is cited. In this report, an account is given of the experimental-clinical therapeutic procedure employed in the alleviation of a symptomatic manifestation.

The patient, a fifty year old socialite, was referred by her family physician for hypnotherapy. For many years she had suffered a yearly average of forty-five severe incapacitating migrainous headaches, for which there had been found no organic basis. She had often been hospitalized for these attacks because of severe dehydration and uncontrollable vomiting, and the attacks lasted from not less than three hours to as long as three weeks.

Although the patient was desirous of therapy, she was incomprehensibly demanding, dictatorial, and actually uncooperative as far as psychotherapeutic exploration was concerned. She wanted all therapy to be accomplished, very definitely so, within four visits at intervals of two weeks. Hypnosis and any hypnotic procedures considered valuable by the therapist were to be employed, with the exception of any psychological investigative procedures. The entire situation was to be so handled that she was not to have any seriously incapacitating attacks, that is, attacks of over three hours duration, in the six weeks period of her therapy.

However, it was also her demand that, since she had these headaches for many years with great regularity, she wanted them to continue, but in such fashion that they would serve to meet her "hidden personality needs" but without interfering with her as a functioning personality. (The patient was intelligent, college-bred, well-informed, happily married, and a devoted grandmother.) She suggested that the character of the headaches might be changed but not the frequency. However, this was but a suggestion, she declared, and she was content to rest this responsibility upon the therapist.

In reply to her, the demand was made that the therapist required as a special consideration that she report yearly to him as a form of insurance of her therapy.

After careful thought, she agreed to do so for two years providing no fee was charged, but thereafter the therapist would secure any information from her family physician.

Despite her attitude toward therapy in directing it, restricting procedures, and establishing limits, she was readily accepted as a patient, since she presented an excellent opportunity for a combined experimental and clinical approach. When informed of this type of acceptance, she agreed readily.

The actual approach to her problem, in addition to being oriented to her demands, was based upon a combined experimental-clinical procedure utilizing in sequence subjectively condensed and expanded experiential time, employing the one to enhance the other. She proved to be an excellent subject, developing a profound somnambulistic trance within ten minutes.

The first instruction given to her was that she was to accept no suggestion that was contrary to her wishes and to resist effectively any attempt to violate any of her instructions. Next she was told to execute fully all of those instructions given her in actual accord with her expressed desires. In this manner, her full responsive acquiescence was secured in relationship to both her resistances and her actual cooperation with possible therapeutic gains.

The therapeutic plan devised for her was relatively simple. The first procedure after the induction of a deep trance was to instruct her fully in the concepts of time expansion and time condensation. Then she was told that she was, without fail, to have a relatively severe migraine attack of not more than three hours duration sometime within the next week. The severity of this attack and its termination within three hours were imperative for adequate therapeutic results.

The following week, she was to have another and even more severe attack. It would differ, however, from the headache of the preceding week in that, while it would last in subjective or experiential time slightly more than three hours, it would last in solar time as measured by a stop-watch not more than five minutes. Both of these headaches were to develop with marked suddenness, and she was to go to bed immediately and await their termination. The patient was then awakened with an amnesia for her trance experiences and informed that she was to return in two weeks time. Meanwhile, she

was not to be disturbed or distressed by any headaches she might have.

When the patient was seen two weeks later, she developed a trance readily upon entering the office. She reported that she had obeyed instructions fully and had experienced two headaches. The first persisted two hours and fifty minutes, and the second almost five minutes. Nevertheless the second headache seemed to be much longer than the first and she had disbelieved her stop-watch until she had checked the actual clock time.

The first headache had developed at 10 a. m. and had terminated at ten minutes of one o'clock. The other had begun sharply at ten o'clock, and she had seized her stop-watch for some unknown reason and had proceeded to lie down on her bed. After what had seemed to be many hours, the headache had terminated as suddenly as it had begun. Her stop-watch gave the duration as exactly four minutes and fifty-five seconds. She felt this to be an error, since she was certain that the time must be somewhere near mid-afternoon. However, checking with the clocks in the house corrected this misapprehension.

With this account completed, the next procedure was to outline the course of her therapy for the next two weeks. To insure her full cooperation instead of her wary acquiescence, she was instructed that she was first to scrutinize them carefully for their legitimacy and then to answer fully a number of questions. In this way she was led into affirming that ten o'clock in the morning was a "good time to have a headache"; that Monday morning was the preferable day, but that any day of the week could be suitable if other matters so indicated; that on occasion, it might be feasible to have headaches on successive days and thus "to meet personality needs" for a two weeks period instead of "meeting them" on a weekly basis of one headache per week. It was also agreed that she would have to consider the feasibility of having a "spontaneous unplanned" headache at rare intervals throughout the year. These however would probably be less than three solar hours in length. To all of this the patient agreed. Thereupon she was instructed to have headaches of less than five minutes each beginning at ten o'clock on the next two Monday mornings. Again she was awakened with an amnesia and dismissed.

Upon her next visit, the patient demanded an explanation of the events of the preceding two weeks. She explained

that she had had two social engagements which she had canceled because of a premonition of a headache. In both instances her premonition had been correct. Both headaches were remarkable in her experience. Both were so severe that she had become disoriented in time. Both made her feel that several hours had passed in agonizing pain but that a stop-watch she had felt impelled to take to bed with her disclosed the headaches to be only a couple of minutes in duration.

She was answered by the statement that she was undergoing a combined experimental-clinical hypnotherapy that was developing adequately and that no further explanation could be offered as yet. She accepted this statement after some brief thought and then developed of her own accord a deep trance state. Immediately she was given adequate commendation for the excellence of her cooperation, but no further explanation was offered and no inquiries were made of her.

Further therapeutic work centered around teaching her a more adequate appreciation of subjective time values. This was done by having her, still in the trance state, determine with a stop-watch, the actual length of time she could hold her breath. In this way it became possible to give her an effective subjective appreciation of the unendurable length of sixty seconds, to say nothing of ninety seconds.

Against this background of stop-watch experience, she was given hypnotic suggestions to the effect that henceforth, whenever her "personality needs" so indicated, she could develop a headache. This headache could develop at any convenient time on any convenient day, and would last a "long, long sixty whole seconds" or even an "unendurably long, painfully long, ninety seconds." It would quite probably be excruciatingly painful. When it was certain that the patient understood her instructions, she was dismissed.

She returned in two weeks to declare it was her last visit, since she expected therapy to be concluded. Thereupon she developed a profound somnambulistic trance. She was immediately told that the therapist wished to review with her the proceedings of the previous interviews and the resulting events. She replied, "That is all so unnecessary. I remember perfectly everything in my unconscious mind. I understand and I approve and I will cooperate fully. Is there anything new you wish to tell me?" She was reminded that it was possible that on rare occasions she might develop an "unex-

pected, unplanned, completely spontaneous headache."

She replied that she remembered and that if there were nothing more to be done, she wished to terminate the interview without delay. Upon the therapist's assent, she roused from the trance, thanked the therapist, and stated that a check would be sent in three months' time, at which time she would send also a preliminary report.

The reports received in the next two years and from her physician since then have all disclosed that the patient benefited extensively. She has on the average about three "unexpected headaches" a year, lasting from two to four hours. At no time has she required hospitalization, as had been the case previously.

However, once a week, with ritualistic care, usually at ten o'clock on a Monday morning, she enters her bedroom, lies down on the bed, and has a headache, which she describes as "lasting for hours but the stop-watch always shows it only lasts from fifty to eighty seconds. It just seems for hours. And then I'm all over every bit of it for another week. Sometimes I even have those headaches on two successive days, and then I'm free for two weeks. Sometimes I even forget to have one and nothing happens."

CASE SUMMARY AND GENERAL COMMENT

This last case history illustrates a number of important considerations. It demonstrates effectively both the value of the experimental psychological approach in psychotherapy as contrasted to traditional methods, and the efficacy of an alleviation of a symptomatic manifestation when adequate allowance and provision is made for the unknown personality structure and its resistances to therapy. Also, it discloses clinical and experimental possibilities in the varied utilization of two distinct aspects of subjective time distortion.

However, of greater significance for the purposes of this book, this case history in conjunction with the material preceding it demonstrates the importance experimentally, clinically, and experientially of subjective time distortion whether as time expansion or as time condensation.

BOOK REVIEW

André M. Weitzenhoffer. *General Techniques of Hypnotism*. New York, Grune & Stratton, 1957. Pp. xvi + 460.

By Bernard E. Gorton, M.D.

It has been symptomatic of the status of hypnotism as a science that since the days of Liébeault, Bernheim, Forel, Moll, and Bramwell, no major work has been published dealing extensively with the induction of hypnosis and the demonstration of its various phenomena. One could hardly imagine a similar situation existing in a field like chemistry, in which the existence of comprehensive, up-to-date textbooks setting forth all known techniques is taken for granted. During the past 25 years the serious student of hypnosis has been handicapped in any attempt to inform himself concerning the existing techniques in this field by having to survey a widely scattered literature devoted chiefly to clinical or experimental applications. Most of the recent works on hypnotism have dealt with specialized applications in such fields as medicine and, while excellent for their intended purpose, have of necessity presented the particular author's favorite approach and methods as applied to the particular experimental or clinical problem under consideration. One could scarcely expect a beginning chemist to learn general principles and techniques of chemistry from treatises on qualitative and micro-analysis. While many valuable contributions to technique have been made in recent years, they have almost without exception been published in specialized journals and symposia. That this situation has contributed to an inadequate dissemination of existing knowledge and practice in the field need not be stressed further here. The present volume by Professor Weitzenhoffer of Stanford University, which deals with the general techniques of hypnotism, is thus a much-needed addition to the literature and an attempt to fill a long-standing need. As such, it is an event of major interest and importance to students of scientific hypnotism and deserving of detailed comment and evaluation.

General Techniques of Hypnotism is intended to be a technical text suitable for teaching introductory and advanced courses in hypnotism at the graduate level to professional workers. It covers those techniques that underlie the production of hypnotic phenomena in general, as contrasted

to the specialized applications in such fields as psychiatry and dentistry. The author has attempted to produce a work which does not presuppose any prior knowledge of hypnotism or require any collateral reading, which would be suitable for self-instruction, and which would give the student a working understanding of hypnosis and hypnotic phenomena.

Professor Weitzenhoffer has brought to the task of writing this volume the wide background of scholarship, familiarity with the scientific and historical literature, and first-hand experience in the laboratory and clinic which were evident in his previous work *Hypnotism*, which dealt with the facts and theories of the subject. The present work is actually (1) a practical step-by-step guide on learning how to hypnotize for the beginner and the advanced student, (2) an exposition of a theoretical framework for the understanding of hypnosis and its phenomena, (3) an exposition of practically all known induction methods and hypnotic techniques, and (4) a rather complete survey of much historical and experimental material and (5) a brief review of practical applications.

The first part of the book is entitled "Foundations" and consists of a chapter of preliminary remarks followed by a 53 page chapter on the dynamics (i.e. theory) of hypnosis. Part Two covers 90 pages and deals with "Waking Suggestions" as a preliminary to the induction of hypnosis proper. This portion includes exercises in auto-suggestion to be carried out by the reader and an extensive series of demonstration-experiments setting forth a variety of somatic and sensory alterations. Part Three comprises the remainder of the volume. A discussion of hypnotic susceptibility and scales for measuring hypnotic depth is followed by a detailed exposition of practically all the known methods of inducing hypnosis. There is much historical material, chemical methods of induction are described, there are chapters on auto-hypnosis, "animal hypnosis", the induction of a variety of simple and complex hypnotic manifestations, and a section devoted to the handling of special problems, including resistance to and simulation of hypnosis. Mass (group) hypnosis and hypnoidization are dealt with as well. A brief concluding chapter describing various practical applications of hypnotism is followed by an un-

usually complete and up-to-date bibliography of some 209 references.

The author in his triple role of teacher, scholar, and historian has made *General Techniques of Hypnotism* a book of encyclopedic scope and detailed description. The reader, and this reviewer, finds himself confronted with an embarrassment of riches which makes concise evaluation and criticism difficult. The comprehensiveness of the work with its minute coverage of multifarious detail is at times overwhelming; both beginner and advanced student are strongly advised to follow the author's directions (given in the Preface) for selecting the individual chapters best suited to their respective needs. In order to make the book useful for self-instruction, the author has included detailed and frequently verbatim instructions describing word for word the exact suggestions to be used for the demonstration of the various phenomena. This classroom-oriented approach intended to benefit the beginning student has been coupled with a sophisticated theoretical and historical orientation that will appeal to the advanced student. There is "something for everybody" in this book, which is definitely not designed to be read in one sitting but should rather be considered a vade mecum to be referred to repeatedly.

The chapter on "Dynamics of Hypnosis" consists of a detailed discussion of the theory of hypnosis which the author first advanced in his work *Hypnotism*. This 53 page section will be difficult reading for the beginner but will provide the more advanced student with a conceptual framework and rationale for the techniques presented later on. This theoretical material is a valuable feature, because it tends to counteract much of the unthinking empiricism with its "cook-book" approach that characterizes too many volumes in the field, and it can stimulate the student towards a more mature, critical, and sophisticated orientation. Those disagreeing with Weitzenhoffer's theories will find that the remainder of the book in no way presupposes an acceptance of his formulations. The discussion of the psychoanalytic theories concerning the role of transference in the hypnotic situation in this section is the best known to this reviewer anywhere in the literature.

The author now proceeds to guide the student to the induction of hypnosis via the medium of "waking suggestions", proceeding from the simple to the complex. Since many, if not all, of the phenomena discussed in this section are encountered at

one time or another in the hypnotic state proper, the reader will do well to recall the author's statement on page 46 that "objective measures aimed at differentiating hypnosis from non-hypnotic conditions have been relatively unsuccessful" and that so-called waking suggestibility and hypnotic suggestibility lie on a continuum.

In this second portion of the book there are no less than 30 separate demonstration-experiments, starting with exercises in auto-suggestion to be carried out by the reader himself. It is here that one is first obliged to question whether the author's scholarly and didactic enthusiasm may not have led him astray. We find some 14 pages devoted to the Chevreul pendulum alone, and the section abounds with commands, challenges, verbatim instructions, and diagrams. In introducing the beginning student to simple demonstrations of sensory and motor phenomena, the author based this first part of his practical instruction upon an almost exclusively authoritarian approach to the hypnotic subject. As a result, he runs into the definite danger of inculcating a rigidity of method and approach while attempting to provide the beginner with a firm foundation of technique. A disturbing flaw here is the inclusion at considerable length of many "demonstrations" much better suited to the vaudeville stage than to the classroom or clinic. Such procedures as "making the subject walk with a limp," "preventing the subject from either opening or closing his mouth," not to speak of "making the subject kneel or crawl" (illustrated by means of line drawings) are undignified and histrionic maneuvers, inappropriate to serious scientific work. They are all the more regrettable, since this 90 page section is one of the longest single portions of the volume and the one most apt to impress the beginner. In justice to the author, it should be pointed out that he frequently reminds the reader of the need for individualizing techniques and being flexible in one's approach to the inter- and intra-personal needs of the subject. However, one cannot help but wonder whether the beginner, especially when working without supervision, will not be carried away by a desire for impressive and theatrical "demonstrations" instead of learning to attune himself to the needs of a subtle inter-personal relationship geared to the inner needs of his subjects. One wishes that more time had been spent at an early period in the book on detailed case protocols designed to impress upon the beginning student the need for learning that successful hypnotic work, whether experi-

mental or applied, and the induction of deep trances is much more dependent upon the cooperation of a willing and interested subject than on dramatic manipulations by the operator.

Part Three of the book deals with the induction of hypnosis proper. Tests of hypnotic susceptibility are discussed quite fully, limitations of existing tests pointed out, and recommendations made concerning the design and construction of new scales. Almost every known induction technique is presented most thoroughly and completely, and it seems likely that it is this part of the book which will prove most useful and instructive to the largest single group of readers. The fractionation method is especially well described, as are the various so-called "waking" or "sensorimotor" techniques culled from the literature. One wishes that some of these had been presented in more detail, and that less space had been devoted to the induction of "hypnosis" by drugs such as the various barbiturates and other agents, since the evidence is by no means convincing that the psychophysiological state thus induced is actually identical with hypnosis. Thus, one questions whether the rather lengthy discussion of the use of Scopolamine on page 260 ff., interesting as this may be from an academic standpoint, actually belongs in a book of this sort.

This reviewer was disappointed that the important topic of "Depth Hypnosis and Its Induction," consisting of a recapitulation of Erickson's classic paper on the subject, was dealt with in only 9½ pages (cf. the 14 pages devoted to the Chevreul pendulum!) It is regrettable that at this point the author failed to give more verbatim descriptions of the induction procedures involved. In view of the importance of deep hypnosis for research and clinical work, a statement of the author's own experience with these methods would have been of great value. One looks also in vain for a detailed description of how to induce and maintain the famous "plenary trance," which has been referred to by many but described in scientific detail by none so far as this reviewer is aware. In this portion of the book the author's penchant for obscure historical material comes to the fore; this may prove of dubious value, and actually be confusing, in a work primarily devoted to instruction, even though it holds interest for the scholar. We find a detailed recitation of Mesmer's original techniques (pp. 278 ff.), a section on "hypnosis by passes" on page 295 ff., as well as a 7 page discussion

of Charcot's hypnotic techniques and his now obsolete theoretical formulations.

The chapter on auto-hypnosis is by far the best discussion of this topic known to this reviewer. The author cogently points out that "self-hypnosis" which is learned by post-hypnotic suggestion cannot be said to be truly auto-hypnosis, since it originates in a hetero-suggestive situation. His use of the term *mediated self-hypnosis* deserves to be more widely used in this connection. The author's own technique for true self-hypnosis is strongly recommended to anyone interested in exploring true auto-hypnosis.

The following portions of the book contain a great deal of excellent material which will be of interest to the advanced student. The author stresses the need for obtaining as deep a trance as possible and for giving the subject an opportunity to reorient himself into the suggested situation, with complex phenomena being brought about gradually in a step-by-step fashion. There is good and ample discussion of post-hypnotic suggestion, post-hypnotic amnesia, and enabling the subject to open his eyes and talk while in the trance state. In his description of hypnotic age regression the author justly points out that "regressions probably are potentially the most dangerous of all hypnotic phenomena" because of the possibility of inadvertently returning the subject to a highly traumatic episode in his past life. Weitzenhoffer's own technique for producing regressions is described in some detail, and here the use of non-verbal signals is an important technical point that deserves to be more widely known and applied. The description of the specialized advanced techniques deals with the induction of complexes and neurotic behavior, the demonstration of various phenomena of the psychopathology of everyday life (based on the work of Erickson) and a more detailed consideration of hypnotic regression and revivification. These sections are very well done and should provide the advanced worker with a wealth of useful data hitherto only to be found in the professional journal literature. A section dealing with the special problems of hypnosis takes up the handling of resistances, the underlying dynamics and various ways of meeting these situations. In discussing the problem of simulation of hypnosis, the author makes a valuable original contribution by showing how a simple test of perceptual transcendence (p. 358), which he first described, can be used as a test for the presence or absence of the

trance state (p. 409). This test, which deserves to be called the "Weitzenhoffer test," involves the hallucination by the subject of a figure on the back of a playing card chosen at random from a pack of cards and its later recognition among cards chosen at random.

In the final chapter there is discussion of the various applications of hypnotism in psychological research, medicine, dentistry, and psychotherapy. The concluding bibliography contains many primary sources invaluable for the beginner as well as the more experienced student.

Scattered throughout the book are a host of original and stimulating ideas drawn from the author's own experience as a clinician and teacher and his thorough familiarity with the relevant literature. To mention only a few, the use of "mock hypnosis" using "pseudo-subjects" who simulate a trance for training purposes in the classroom appears to be an excellent and original procedure. The use of simple experiments in auto-suggestion, such as the Chevreul pendulum, can help the beginner to learn at first hand about the nature of suggestion. There are many useful and sound suggestions that will prove stimulating and provocative to readers at all levels of competence in the field.

It is needless to state that the wealth of references, the interesting historical data and the insistence upon a theoretical framework all help to make this book a *sine qua non* for anyone seriously interested in acquiring the necessary foundations for hypnotic work and that the many excellent features of the book by far outweigh the criticisms mentioned above. In a work of such scope, each reader inevitably will find himself wishing that certain topics had been covered more fully. This reviewer was surprised at the complete omission of the topic of time distortion (the phrase does not occur in the index) which

by now can surely be classed as one of the general techniques of both experimental and clinical hypnosis. The use of the "post-hypnotic induction technique" for the detection of trance-simulation could also have been mentioned.

On balance, the advanced and more sophisticated techniques of hypnotic induction have been somewhat slighted, from the standpoint of space and detailed description, in favor of simpler methods which the author felt best suited to classroom demonstration. In this reviewer's opinion, the author has been insufficiently critical of the various "mechanical" techniques drawn from the literature and has not always emphasized sufficiently the desirability for centering all hypnotic procedures about the subject and his needs. True, he mentions this at various points, but he has not illustrated it sufficiently by concrete and detailed example. This reviewer is aware that the shortcomings of the volume are most likely the result of a commendable desire to attain comprehensiveness and to provide material suited to the classroom and self-instruction.

To summarize, *General Techniques of Hypnotism* describes practically all of the known techniques for inducing hypnosis and its many phenomena, provides much needed historical, theoretical, and experimental background and in the main meets most successfully its goal of providing a text suitable for professional courses of instruction in hypnotism at the beginning and advanced levels. One hopes that in a future edition there may be some deletion of the emphasis on material that mars what is otherwise an excellent book, which unquestionably will serve as a standard textbook and reference volume for a long time to come. All those interested in the advancement of scientific hypnotism owe a debt of gratitude to Professor Weitzenhoffer for this fine contribution to the literature.

BY-LAW NO. 1 OF
THE ACADEMY OF APPLIED PSYCHOLOGY IN DENTISTRY

BY-LAW NO. 1 of the Academy of Applied Psychology In Dentistry (hereinafter referred to as the "Academy") relating to its constitution and generally to the conduct of its affairs.

BE IT ENACTED AND IT IS HEREBY ENACTED as By-law No. 1 of the Academy as follows, that is to say:

GENERALLY

1. *Preamble:* This Academy was conceived and organized as a national organization by a number of established local groups of dentists, who became affiliated with the Academy for the purpose of thus enlarging and improving the facilities and opportunities of their members for the discussion and exchange of helpful information concerning matters of mutual professional interest. After such organization, other such local groups became affiliated with the Academy for the same purpose; and, as a consequence of such affiliations, all the members of such affiliated groups (each of which is hereinafter referred to as an "Affiliate") became members of the Academy, the entire membership of which at any time is composed of all the members of all its Affiliates at any such time.

2. *Objects:* The objects and purposes of the Academy are and shall continue to be:

(a) to cultivate and promote the study by its members of hypnotic and psychotherapeutic techniques, as applicable and desirable in dental practice;

(b) to enlarge and improve the facilities and opportunities of its members for the discussion and exchange of helpful information concerning such techniques;

(c) to issue notices and bulletins to its Affiliates from time to time containing recommendations dealing with the study and practice of such techniques, and references to available literature dealing with such techniques;

(d) to publish or to assist in the publication of an appropriate Journal for distribution among its members without cost;

(e) to promote and encourage the development and establishment of acceptable standards of professional training and adequacy in the use of such techniques; and

(f) to do and perform and cause to be done and performed such further and other acts and things as may be deemed conducive to the attainment of its above mentioned objects and purposes.

GOVERNMENT

3. *Authority:* The Academy is hereby authorized to enact such by-laws, and make such rules and regulations not contrary to law, as it may deem necessary or desirable for the good government and management of its affairs, and especially concerning the qualification, classification, rights, privileges, admission, and expulsion of members; the fees and dues which it may deem desirable to impose; and the number, powers, duties, and mode of election of its officers, boards, committees, and sub-committees; and, in the manner hereinafter prescribed, it may repeal or amend, whenever at any time and from time to time it may be deemed necessary or desirable, all or any such by-laws, rules, or regulations.

4. *Officers:* The officers of the Academy are and shall continue to be a President, his predecessor in that office who shall become and be designated the Past President, a First Vice-President, a Second Vice-President, a Secretary, and a Treasurer, and such additional officer or officers as shall be appointed at any time and from time to time when deemed advisable, by a written appointment signed by all the above-mentioned designated officers, or by an appropriate amendment of this by-law.

5. *Board of Governors:* The supreme governing body of the Academy shall be its Board of Governors (hereinafter referred to as the "Board") which shall consist of all its above-mentioned officers and such other members of the Academy (not exceeding three in number) as the President may appoint to the Board.

6. *Committees:* The Board shall have the right, at any time and from time to time, by majority vote to appoint Standing Committees or Special Committees (consisting of members of the Board) with such powers and duties as may be enumerated in the resolution of appointment. The President, acting alone, shall have the same right of appointment; and the pow-

ers and duties of any committee so appointed by him shall be enumerated in his notice of appointment.

7. *Fiscal Year:* The fiscal year of the Academy shall end on the last day of December in each year.

MEMBERSHIP

8. *Applications:* The Academy will not consider or deal with any individual applications for membership. However, a local group of dentists, having 10 or more members, may make a written application for affiliation with the Academy, the acceptance of which will constitute and effect the admission of all the members of the applicant to membership in the Academy. The form of application, which will be supplied by the President on request, shall be signed on behalf of the applicant by its duly authorized officers in that behalf; and it shall be mailed to the President, together with a copy of the constitution of the applicant, a list, in alphabetical order, of the full names and addresses of all its members who are qualified dentists, a list, in alphabetical order, of the full names, addresses and professions of all its members, if any, who are not qualified dentists, a list of its officers, and the full name and address of its officer (or of each of its officers) who is authorized, on its behalf, to correspond with the Academy.

9. *Affiliation:* The applicant, upon receiving notice of acceptance of its application, shall forward to the President its certified check for membership dues for the then current calendar year, for each of its members, at the then prevailing rate; and upon payment thereof the applicant will become an Affiliate of the Academy, such of the members of the applicant as are qualified dentists will become Registered Members of the Academy and such of the members of the applicant, if any, as are not qualified dentists will become Affiliated Members of the Academy. In due course thereafter the Academy will cause to be issued and forwarded to the applicant an appropriate certificate of its affiliation with the Academy and appropriate certificates of membership for delivery to each of its members.

10. *Membership Classification:* There shall be no distinction made between Registered Members and Affiliated Members of the Academy, save and except that Affiliated Members of the Academy will not be eligible to be appointed, nominated or elected to its Board, or as one of its officers, or to act as an authorized delegate of

any Affiliate to the annual general meeting of the Academy.

11. *Renewal of Membership:* Any Affiliate desiring at any time and from time to time to renew, for the following calendar year, its affiliation with the Academy and, as well, the membership of its members in the Academy, shall do so by forwarding to the President its certified check for membership dues for the following calendar year, for each of its members at the then prevailing rate, and all the material heretofore referred to in paragraph No. 8, revised and corrected up to date: Provided that another copy of its constitution shall not be required unless, theretofore, substantial amendments shall have been made to the latest constitution, of which a copy shall have been supplied to the President. In due course thereafter the Academy will cause to be issued and forwarded to the Affiliate an appropriate certificate of the renewal of its affiliation with the Academy for the next following calendar year and appropriate certificates of the renewal of the membership of each of its members in the Academy for the next following calendar year.

12. *Termination of Membership:* The affiliation with the Academy of any Affiliate and, as well, the membership in the Academy of all its members may be terminated at any time as at the end of the then current calendar year, arbitrarily and without assigning any reason therefor, by either the Academy or the Affiliate by notice in writing from either of them to the other of them, containing therein a certified copy of its resolution authorizing such termination passed by the Board or passed by the Affiliate, as the case may be.

13. *Voting Rights:* On or before September 30th of each year, each Affiliate shall appoint or elect from its Registered Members the number of delegates to which it shall be entitled as hereinafter set forth, who will have the exclusive right to represent it and vote for it at all general meetings of the Academy, and shall give written notice to the President containing the names and addresses of such delegates. An Affiliate shall be entitled to one delegate, if it has more than nine members and less than 25 members; two delegates, if it has more than 24 members and less than 75 members, and three delegates, if it has more than 74 members.

14. *Annual Meeting:* A general meeting of the Academy (hereinafter referred to as the "Annual Meeting") shall be held early

in each calendar year for the election of a Board and of officers for the following term of office and for the transaction of such further and other business as customarily is transacted at an annual meeting. At least six weeks notice thereof shall be given to all the members of the Board and to all its officers, to all its Affiliates, and to all the duly authorized delegates of such Affiliates. Notwithstanding anything to the contrary hereinbefore or hereinafter contained, the delegates to an Annual Meeting shall have the exclusive right thereat to vote and to exercise all the rights and powers of the Academy and of its Board. The President shall act as Chairman, and the Secretary shall act as Secretary, at every Annual Meeting, but neither of them shall have the right to vote thereat, except in his capacity as a duly appointed delegate (if he is one) of the Affiliate of which he is a member, and no delegate shall be entitled to more than one vote, except as proxy for another duly appointed delegate of the Affiliate of which he is a member, as set forth in the next following paragraph. Each Affiliate shall advise all its members of the time and place of each Annual Meeting and shall advise them that all of them have the right, as guests, to attend each Annual Meeting, but (save as aforesaid) not to participate in any business transacted thereat.

15. *Proxies:* If any delegate or delegates duly appointed by any Affiliate as aforesaid should fail to be present at any Annual Meeting, the remaining delegate of that Affiliate (if there be such a remaining delegate) or the remaining delegates (jointly) of that Affiliate (if there be more than one such remaining delegate) shall have the right, by proxy, to exercise the vote of each duly appointed absent delegate of such Affiliate. Save as aforesaid, no vote can be exercised by proxy.

POWERS AND DUTIES OF THE BOARD AND OF OFFICERS

16. *Meetings of the Board:* The President (if and when he deems it necessary to do so, or upon receiving a written request to do so from any three other members of the Board) shall cause a meeting of the Board to be called and held. At least ten clear days notice of the time and place of any such meeting shall be mailed, by registered post, to each member of the Board; but in case or cases of emergency, such notice may be given by telephone. A meeting of the Board may be held at any

time, however, if all the members of the Board are present thereat.

17. *The President:* The President shall preside at all Academy meetings, and he shall perform such other duties incidental to the office of President. The First Vice-President shall perform the duties of the President in the event of the absence or disability of the President, and the Second Vice-President shall perform the duties of the President in the event of the absence or disability of the President and the First Vice-President.

18. *The Secretary:* The Secretary shall issue, or cause to be issued, notices for all meetings of the Board, except in any case or cases of emergency as aforesaid, and for the Annual Meeting of the Academy; and he shall keep minutes of all meetings, have charge of the minute books of the Academy and of the Board, and perform such other similar duties as may be assigned to him by the President.

19. *The Treasurer:* The Treasurer shall have the care and custody of all the funds and securities of the Academy and shall deposit the same in the name of the Academy in such bank or banks, or with such depository or depositories, as the Board may direct. Unless otherwise provided by a resolution of the Board he shall sign all checks, drafts, and orders for the payment of money, and he shall pay out and dispose of the same as the Board shall direct. He shall exhibit his books and accounts at all reasonable times to any officer of the Academy, whenever requested to do so; and he shall perform all duties incidental to his office, or which may be assigned to him by the Board. He shall give such bond for the faithful performance of his duties as the Board shall require.

20. *Delegation of Duties:* In case of the absence or inability to act of any officer of the Academy, or for any other reason that may be deemed sufficient, any three officers of the Academy, by memorandum in writing signed by all of them, may appoint and direct any other member of the Board temporarily to exercise all or any of his powers and duties.

21. *Tenure of Office:* The members of the Board and the officers of the Academy shall remain in office from the date of their election until the date of the next following Annual Meeting, and more than one officer may be held by any member of the Board.

22. *Vacancies:* If the office of any of the officers of the Academy should become vacant, another member of the Board or, in

the alternative, any other Registered Member of the Academy may be appointed to fill such vacancy until the date of the next following Annual Meeting by the President, with the written consent of at least two other members of the Board, or by the Board, by resolution passed by a vote of the majority of its members at a meeting.

NOMINATIONS AND ELECTIONS

23. *Nominations:* The nomination of a member of the Academy to the Board or as one of its officers, shall not be received or accepted unless or until, theretofore, he shall have signed and deposited with the Secretary a written consent to his nomination, and undertaking, if elected, to accept office and assume and perform the duties thereof.

24. *Elections:* The election of a member of the Board or of an officer of the Academy shall require a vote of a majority of all the Registered Members present and voting at its Annual Meeting.

RULES OF PROCEDURE

25. *Amendment of By-laws:* This by-law and any other by-laws of the Academy may be revoked or amended, either wholly or

in part, at any time at a meeting of the Board, by a vote of three-fourths of its members present thereat, by a written resolution signed by all the members of the Board, and at an Annual Meeting, by a vote of three-fourths of the delegates present thereat.

26. *Procedure:* As soon as may be convenient, the Board shall enact and publish an administrative by-law, prescribing such forms as may be deemed necessary or advisable, establishing prerequisites for nominations and elections at Annual Meetings, and establishing rules of procedure and the order of business to be followed at meetings.

27. *Parliamentary Authority:* The manual "Practical Parliamentary Procedure" by Rose Marie Cruzan shall govern such proceedings of the Academy as are not hereinbefore set forth.

Enacted and passed by the Board the third day of February 1957.

Ralph M. Singer, President
Gordon J. Fimio, Secretary

BIOGRAPHICAL NOTES ON ASSOCIATE EDITORS
OF THIS JOURNAL

BERNARD E. GORTON, born in Vienna, came to the United States in 1941. He received his premedical education at Bowdoin College (A.B. cum laude), and he received the degree of M.D. from Syracuse University College of Medicine in 1951. After a year of internship he was a resident in psychiatry from 1952 to 1953 at the New York State Psychiatric Institute at the Columbia-Presbyterian Medical Center. From 1953 to 1955 he was a Captain in the U. S. Air Force Medical Corps, acting as Chief of the Neuropsychiatric Clinic and also as electroencephalographer at the 3750th U. S. Air Force Hospital. After leaving the armed forces he completed his psychiatric training at the Syracuse Psychopathic Hospital as senior psychiatrist. Since 1957 Dr. Gorton has been in the private practice of psychiatry and neurology and a member of the staffs of the Graduate Hospital of the University of Pennsylvania and of the Philadelphia Psychiatric Hospital. He is also a clinical assistant in the Division of Psychiatry, Graduate School of Medicine, University of Pennsylvania. Dr. Gorton is well known for articles published in the *Psychiatric Quarterly* on the physiology of hypnosis, upon which is based his contribution to *Hypnosis in Modern Medicine*, edited by Dr. Jerome Schneck. He is a member of the American Medical Association, the American Psychiatric Association, and the Society for Clinical and Experimental Hypnosis, and he is a Fellow of the American Society of Clinical Hypnosis.

THEODORE E. MANDY is a B.A. and an M.D. (1934) of George Washington University. In association with his brother Arthur, a psychiatrist, he began the practice of obstetrics and gynecology in Baltimore in 1938. From the beginning he became interested in the psychosomatic aspects of his specialty, and in 1948 he and Arthur Mandy set up the first Obstetrical and Gynecological Psychosomatic Clinic at Sinai Hospital in Baltimore. Since then the two brothers have written individually and as co-authors many articles on psychosomatic aspects of obstetrics and gynecology, including "natural childbirth," and they hope to complete in the near future a book, *The Troubled Female*. In 1953 Dr. Mandy, with other men in medicine, psychology, and dentistry, was instrumental in forming the Maryland Society of Clinical Hypnosis and was its Chairman until 1957; since then he has been Chairman of its Executive Board. In 1958 he was elected Vice-President of the Baltimore-Washington Section of the Society for Clinical and Experimental Hypnosis. Since 1957 he has been a member of the staff of Seminars on Hypnosis. He is a Fellow of the American Society of Clinical Hypnosis and Chairman of the Program Committee for the first annual meeting. His principal professional memberships, in addition to those already mentioned, are in the American College of Obstetrics and Gynecology, International College of Surgeons, American Medical Association, and the International Fertility Association. Among his extra-professional activities he reports private flying from 1944 to 1948 and an interest in British racing cars.

MARGARET MEAD, an anthropologist of international renown, describes herself as a specialist in "education and culture, the relationship between character structure and social forms, personality and culture, cultural aspects of problems of nutrition, mental health, family life, cross-national relations, national character, and cultural change." Only a few facts about her, selected from many, will be given, since the mere listing of her books, technical monographs, awards, lectureships, and academic honors would require several pages.

She has spent many years living among various peoples of the South Seas, and in this work she had to learn to speak seven primitive languages. She has studied comparative trance behavior in various Oceanic cultures and is the author and narrator of the sound-track of a film, "Trance and Dance in Bali," which is one of seven which she has done. A few of her books based on her field work are *Coming of Age in Samoa*, *Growing Up in New Guinea*, *Sex and Temperament in Three Primitive Societies*, *New Lives for Old*, *Balinese Character: a Photographic Analysis* (with Gregory Bateson) and *Growth and Culture: a Photographic Account of Balinese Childhood* (with Frances Macgregor). Dr. Mead is also interested in studying so-called civilized cultures in the light of what she has learned about small, homogeneous, stable societies.

Dr. Mead is a Fellow of the American Orthopsychiatric Association, a member of the Board of Directors of the American Association for the Advancement of Science, Past President of the World Federation for Mental Health, Visiting Professor of Anthropology in the Department of Psychiatry of the University of Cincinnati, and will be Sloan Visiting Professor at the Menninger Foundation in the spring of 1959. Last year she was Ernest Jones Lecturer of the British Psychoanalytical Society and the Terry Lecturer at Yale. Her permanent appointments in New York are as Associate Curator of Ethnology at the American Museum of Natural History and Adjunct Professor of Anthropology at Columbia University. Her lucid and attractive style of writing has obtained for her a large readership, both lay and professional.

FRANK A. PATTIE, born in Winchester, Tennessee, received the degree of B.A. at Vanderbilt University in 1922 and three years later the degrees of A.M. and Ph.D. from Harvard and Princeton, respectively. He came to the University of Kentucky in 1947 as Professor of Psychology. His interest in hypnosis began while he was a student of William McDougall and Morton Prince at Harvard. Dr. Pattie was a lecturer at the Symposium on Hypnosis organized by Dean Roy M. Dorcus at the University of California at Los Angeles in 1952, and he contributed three chapters to *Hypnosis and its Therapeutic Applications*, edited by Dr. Dorcus. He is the author of numerous articles in scientific journals on audition, animal behavior, stuttering, history of medicine, and hypnosis. From 1955 to 1957 he was Vice-President of the Society for Clinical and Experimental Hypnosis. He is a Diplomate in Clinical Psychology and a Fellow of the American Psychological Association, the Academy of Psychosomatic Medicine, and the American Society of Clinical Hypnosis.

IRVING I. SECTER received the degree of D.D.S. from the Chicago College of Dental Surgery, Loyola University, in 1929 and, except for the period of the second World War, has practiced in Chicago since that date. He became interested in dental hypnosis about 15 years ago. His studies in this field made him feel the need for further knowledge of psychology, and he enrolled in courses in psychology and statistics at Northwestern University. He is now working on a thesis for the master's degree in psychology at Roosevelt University, the subject of which is hypnotizability as a function of the subject's attitude toward hypnosis. At Roosevelt Dr. Secter has been a teacher in courses on hypnosis, and he is the author of several papers on hypnosis and its applications. During World War II he served in the Army Air Force, and since then he has also served in the organized reserve corps and in the National Guard. The Chicago Society of Clinical Hypnosis recently chose him as President, and he is Past President and a Fellow of the Chicago Academy of Dental Psychosomatics, a Fellow of the American Society of Clinical Hypnosis, and a member of the American Dental Association, the Society for Clinical and Experimental Hypnosis, and a number of other professional organizations. He was the Editor of *The Journal of Hypnosis and Psychology in Dentistry*, which was until 1958 the official organ of the Academy of Applied Psychology in Dentistry. Many of our readers have met Dr. Secter as a speaker or clinician at the meetings of several dental societies and other groups interested in the study of hypnosis. Dr. Secter prefers to be known as a psychologically oriented dentist and not as a "hypnodontist."

ANDRE' M. WEITZENHOFFER was born in Paris, France, in 1921. His education in the fundamental sciences before he began his work in psychology was unusually extensive. He has the degree of B.S. from the Massachusetts Institute of Technology with physics as his major subject, master's degrees in mathematics and biology from Brown University, and the A.M. and Ph.D. degrees in psychology of the University of Michigan. He published his first book, *Hypnotism: an Objective Study in Suggestibility*, before he received his doctorate. His second book, *General Techniques of Hypnotism*, appeared in 1957. He is a member of the American Physical Society, the Mathematical Association of America, the American Psychological Association, the Western Psychological Association, and the San Jose Society of Clinical Hypnosis. He is a Fellow of the American Society of Clinical Hypnosis and of the Society for Clinical and Experimental Hypnosis. In the latter Society he is a member of its Committee on Ethical Practices. He is an Advisory Editor for the Publication Society of the Institute for Research in Hypnosis. Recently he was a Fellow of the Center for Advanced Study in the Behavioral Sciences, and he has held Public Health Service and National Science Foundation Fellowships. In addition to his books he has contributed numerous articles on hypnosis to scientific journals. Other fields of interest which he reports are perception, physiology and pharmacology, psychodynamics, psychotherapy, and laboratory instrumentation. At present he is Assistant Professor of Psychology at Stanford University.

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UNCONSCIOUS PERCEPTION OF MEANINGFUL SOUNDS DURING SURGICAL ANESTHESIA AS REVEALED UNDER HYPNOSIS

by David Bradley Cheek, M.D.¹

A surgical procedure under inhalation or intravenous anesthesia is often accompanied by careless conversation. The surgeon may pause as he passes from the scrub room to ask, "Is the patient asleep?" before launching into his latest story, but this may be the only concern shown for the nervous system of this apparently unconscious individual until it can again make sounds and focus its eyes as the anesthetic wears off in the recovery room. It is an error to consider the anesthetized patient as being asleep and unable to hear or understand just because such an individual may have no subsequent conscious memory for events during this period of unconsciousness. Meaningful sounds, meaningful silence, meaningful conversation are registered and may have a profound influence upon behavior of the patient during surgery and for many years after. The anesthetized patient may lose all motor reflexes, lose all ability to communicate with the outside world, lose all sense of pain, but the anesthetized patient is able to hear and remember important events at a deep level of subconscious thought. This level can be uncovered and the events recalled by hypnotic techniques.

During surgical anesthesia, unconsciousness from brain trauma, coma of diabetes, drug poisoning, and insulin shock the last resource of the human organism in maintaining contact with

external environment seems to rest with the sense of hearing. Methods of exploring this area of subconscious human perception have evolved through the work of Milton H. Erickson in the United States during the past twenty-five years. Although he has repeatedly talked about it in his courses on hypnosis, there has been no recognition shown in the literature thus far that the unconscious mind can hear and remember careless operating room conversation. The facts should be known. The inner world of the unconscious patient should be treated with the same respect we show when the patient is fully in possession of all senses.

Evidence for the statements in the present report has been accumulating since October 1957. It has been collected from interviews with physicians and dentists during courses on hypnosis and from the writer's private patients. It is not yet possible to prove that memories attributed to operating room experience are free of coloration from later experience. They may, in some instances, even be manufactured to please the implied needs of the investigator. Fabrications could be drawn from ample source material in literary works, moving pictures, and radio and television broadcasts. Evidence for the material to be presented has been for the most part tape recorded. It has been carefully reviewed with these possibilities in mind. Cases in which recollections seemed vague or could have represented conversations overheard in a recovery room have been discarded unless it was apparent that the patient overheard something which was clearly not intended for his

¹ Clinical Instructor in Gynecology, University of California Medical Center, San Francisco. 2000 Van Ness Avenue, San Francisco 9. This paper was presented at the First Annual Meeting of The American Society of Clinical Hypnosis, October 1958.

ears. Exact isolation of recovered memory to that period in which the patient is in a surgical plane of anesthesia is of academic interest only and is of no practical importance in terms of the welfare of the patient. It will be seen from the following two reports that the modern trend of anesthesiology is toward carrying surgical patients at lighter planes of anesthesia than used to be the custom. Tranquilizing drugs are being used to diminish apparent reactions to environment, and much use is being made of combinations of drugs which sedate and paralyze motor activity at the same time. The resulting effect upon the human being may be somewhat similar to that effected by the female hunting wasps upon the grasshoppers, butterfly larvae, and spiders which they paralyze long enough to supply fresh food for their own young. Now more than ever should we be careful of what our patients hear. Not only are their fundamental sensoria affected to a lesser degree by our anesthetics but the patients today have been subjected to more medical education through more channels than ever before. The resulting potential for dangerous and unrecognized fears originating in and about our operating rooms is of enormous magnitude.

DIFFICULTIES IN RECOGNIZING DEGREE OF CHEMICAL ANESTHESIA

Sometimes it is difficult for an experienced anesthesiologist to know whether a patient is really in a surgical plane or is just behaving as though anesthetized.

CASE A: Doctor R. B. Lindsay (7) of Montpelier, Idaho, tells of complimenting his anesthetist on the excellence of his work just as the appendix had been removed and placed in a pan. As he finished saying, "That was an excellent anesthetic," the patient pulled her head away from the ether mask and joined the conversation with a cheerful, "It certainly was." She then put her head back into the mask while the abdomen was closed.

CASE B: Rudolph Selo, M.D., an anesthesiologist of Council Bluffs, Iowa, tells of giving a general anesthetic in 1955 (8) to a patient who was to have a caesarean section because of placenta praevia. Since the patient had been losing blood, she was receiving oxygen through the mask as Doctor Selo was assembling his equipment. He started a blood transfusion, checked the blood pressure, and wrote his notes while waiting for the abdomen to be cleaned and draped. To his horror as he finally looked up to see if all was ready, he found the surgeon holding the baby while the assistant was manipulating the uterus. After checking his machine and finding that the patient was really only getting oxygen, he decided to let well enough alone. The uterus and abdomen were closed without incident and the patient suffered no pain.

These may be examples of spontaneous hypnoidal states which, though probably exceptions, tend to underline the fact that patients may tolerate surgery with less than maximum amounts of drugs. The expectancy of anesthesia may bring about dissociations of awareness for pain without affecting the ability to perceive through the other senses. The great majority of surgeries are now being performed with patients able to hear and remember.

Several hypnotized subjects have been followed through two or more remembered anesthetic experiences. Fears originating during an early operation have been found to reappear as the subject was reliving the later induction into surgical anesthesia. These fears have been found to produce changes in heart rate and respiration. From the standpoint of behavior it would seem from the available evidence that the point of prime importance is not whether the patient actually heard but rather that the patient believes he has heard. In the light of the findings it seems of the utmost importance that we know before administering an anesthetic what attitudes a patient has carried over at a subconscious level from previous real or imagined operative experiences. Dream rehearsals of a traumatic sort

may make a difference with the anesthetic reactions of a patient during the final real experience. The writer is now using ideomotor questioning techniques to uncover subconscious fears with all preoperative patients regardless of their previous surgical experience. The patient before major surgery will rehearse the anticipated event in his dreams as often as the quarterback will go over the possible situations for decision in a football game. Just as is the case with the uncomplaining obstetrical patient, the preoperative patient to worry about is the one who shows no conscious level evidence of fear and who asks no questions. This is the patient who may be the most subconsciously terrified.

DEVELOPMENT OF TECHNIQUE FOR RECOVERING SURGICAL MEMORY

For fifteen years the writer has wondered why some patients have taken a dislike to a previous surgeon without knowing just why they have done so. During nine years, efforts have been occasionally made by the writer to evoke operative recollections from hypnotized patients. Conversational methods with age regression were used and were always satisfyingly unsuccessful. It was a relief to be convinced that thoughtless remarks in the operating room could not be remembered. Since hearing Milton H. Erickson state that patients were able to hear significant material while anesthetized (2) some misgivings were briefly stirred up but were easily relieved by further pleasantly unsuccessful efforts at verbal questioning in hypnosis. It was further pleasing to find that Bramwell had experienced the same difficulty in trying to uncover anesthesia experience (1).

Memories of operating room experience are preserved at levels of awareness so deep that they cannot be reached with ordinary conversational technique during the time usually

available for investigation. As Erickson has pointed out (3), it may take four or more hours to train a subject to speak without awakening from a deep trance. He believes that this fact results from the lifetime of conditioning in which verbalization is done only when awake. Another explanation might be that muscular responses of adaptation to environment are learned long before the complicated mechanisms of thought translation into articulated sounds are learned. Muscular responses are, for the most part, unconscious in origin, while those of speech are related to effort and evolve at a more conscious level in response to more complicated stimuli. Ideomotor responses at an unconscious level through gesture, facial expression, and voice inflection are perceived and utilized by the infant as a means of tuning in on its environment long before it learns the word meaning of the human noises. We can reach deeper levels of subconscious thought with the help of ideomotor responses than is possible under usual circumstances with conversation in hypnosis (5).

Erickson (4) began using ideomotor responses as a means of communication with hypnotized subjects about 1932. He asked them to lift one hand to signal a "Yes" and the other hand for a "No." He observed variations of these movements, such as a downward movement of the right hand which might mean "Yes, but I don't want to talk about it." LeCron about this time became interested in the use of ideomotor questioning with a Chevreul pendulum with un hypnotized subjects. The four possible directions of swing were assigned by the subject to represent "Yes," "No," "I don't want to answer," and "I don't know." Later, noticing the difficulty his hypnotized patients had in speaking, he began to assign each of the four pendulum answers to fingers which were asked to lift unconsciously as signals (6). This

was a variation of a hypnotic induction technique invented by Erickson. Another characteristic of subconscious behavior must be described and understood to clarify the technique of exploration to be discussed here. The subconscious is able to go over an experience with an age regression at a level deeper than can be retrieved by the conversational level of hypnosis. A patient may be requested to signal with a lifted finger the beginning of an operation and again with another signal the end of the operation. When questioned at a verbal level he may have no memory at all for the material covered in this interval. This principle has been developed and extensively used by Erickson for getting patients to review rapidly and extract significant material during psychotherapy. By asking a surgical patient to signal the beginning of surgery and then with another finger to indicate the hearing of meaningful material followed by another signal for the ending of anesthesia it is possible in a brief space of time to extract important data and establish time relationships. The next step is to ask permission of the subconscious to release this deeply remembered material for more conscious level evaluation and reporting.

In exploring possible traumatic memories with age regression it is necessary to respect the decision of the subconscious mind regarding release of information. An "I don't want to answer" should be a signal to leave that recollection alone after dropping the suggestion that perhaps the experience could be reviewed later in different circumstances without emotional disturbance. It has been the habit of the writer to avoid possible dangerous physiologic reactions in subjects over forty years of age by using dissociation. Subjects with hypertension and all who are over forty years of age are requested to consider themselves a

nurse or orderly in the hospital situation rather than being the patient experiencing the anesthetic. Although the subconscious would probably protect the organism in the hypnotized state from critical reactions, there is so much clinical evidence that emotional stress can initiate a cerebral hemorrhage or a coronary artery occlusion that it seems unwise to tempt fate in the exploration of operative experience.

Since October 1956 the writer has been participating in the teaching of hypnosis to medical and dental graduates. In discussing deep trance phenomena it has been our custom to pick subjects who have been operated upon for acute appendicitis. Initially the intent was to point out how often emotional stress has been related to the onset of symptoms. Frequently during the time available it has been possible to achieve a physiologic regression to the point of being able to demonstrate rebound tenderness and referral of pain to the right lower quadrant on percussion over the descending colon. By stages the writer has become more aware during these interviews of the fact that the facial expressions, respiration, and pulse have reflected shifting responses to the remembered environment of the operating room. The next step was to inquire into subjective responses of the patient before surgery and then during surgery. In October 1957 a physician volunteer during a course of instruction was going through an age regression to his operation under ether anesthesia. He was asked to lift a finger if he heard anything in the operating room which might be disturbing. Verbally he answered this request by saying that there was nothing to hear. While finishing this statement, however, his finger lifted to signal the hearing of some-

² Jack Eidson, M.D., Symposium on Hypnosis, Houston, Texas, October 1957.

thing significant. When he was asked to tell us what this might be, he again stated verbally that there was nothing audible. The question was then asked, "Would it be all right for you to know consciously what is being said?" He gave an affirmative ideomotor signal and then said, after a little more verbal prodding, "It's gangrenous." This was followed in approximately 20 seconds by a second finger signal and a spontaneous verbal, "Let's get out of here and go home." In common operating room jargon the second remark is made in reference to getting out of the open abdomen rather than out of the operating room. On further questioning the subject indicated that he was still getting the anesthetic through his mask when the second statement was made. Anesthetized patients seem able to differentiate between the metallic sound of respiration with the rebreather bag and that of free breathing with the mask removed. When open drop ether is used they are aware of coolness of the evaporating ether near their skin. Patients seem not to notice pressure of the mask nor do they complain of an airway.

Between October 1957 and August 1958 the writer has investigated 52 surgical experiences in 37 hypnotized subjects. Of these there were 30 women and 7 men. All of the men and two of the women were students in courses of hypnosis. The remaining 21 women were private gynecological patients. There were six surgical recollections in which no disturbing sounds were recalled. Since, in these negative cases, the period of study exceeded 30 minutes after achievement of an age regression, it seems reasonable to conclude that they either did not hear anything or their anesthetic level was deep enough to wipe out memory or sound perception. Two of these six negative cases were trained by the writer to have amnesia for everything relating to experience in the

operating room at a time when the surgeon had not yet learned to respect the ears of his anesthetized patient. After repeated efforts it has been impossible to achieve a recall of anything with these two cases.

The majority of anesthetic agents used for the patients in this study have been combinations of nitrous oxide and ether. There were 5 with open drop ether, 7 definite sodium pentothal, 2 definite sodium pentothal with spinal, and 1 with avertin and ether. Although it is not possible to be sure, there were no definite cyclopropane anesthetics in the series.

The longest period of elapsed time between surgery and hypnotic interview was twenty-four years, while the shortest was four years.

EVOLVED TECHNIQUE OF QUESTIONING

1. Care is taken to avoid reference to possible investigation of operative experience until after hypnosis is induced.

2. A minimum of 30 minutes is allowed for deepening and allowing physiologic responses to approach the pace of mental age regression. During this time suggestions are given for ability to control muscles at a subconscious level in order that appropriate ideomotor answering responses can be established. Usually it is suggested that a pointer finger of one hand can lift when the subconscious mind "thinks you are deep enough to be able to shut out all sounds except the sound of my voice." (This satisfactorily excludes external distractions at a conscious level of awareness and never applies to the subsequent regressed orientation where they could hear other sounds.)

After the signal is given, a number "20" is assigned this depth to establish an arbitrary reference point.

3. Finger signals for "Yes," "No," "I don't know," and "I don't want to

answer" are now developed and checked.

4. Now the suggestion is given that the mind can go back through the years as though starting at the end of a family photograph album and working toward the front of the book where there are episodes from earlier periods of experience. The album usually recalls actual photographs, which in turn suggest real experiences in vivid terms. The subject is asked to go back "to some pleasant incident about the age of two or three years." The recollection of this incident is to be indicated by lifting of a finger. The quality of the recalled incident gives an indication of the background personality mold. It also tends to permit deepening of the trance followed by a lightening as the experience is verbalized. This can allow training of the subject to recognize changes in level as well as training to speak without altering the level.

5. Now a muscle response is called for when the subject recognizes at a subconscious level that the depth of hypnosis is "greater than that previously experienced today."

6. The approach to surgical experience can be made at this time as follows:

(a) Does your subconscious mind recall having heard any disturbing sounds during the operation? (This is usually answered by the "no" finger.)

(b) Start at the beginning of your entrance to the hospital. When you can see yourself there lift your finger to let me know. A description is asked for to permit more vivid setting of the following images.

(c) Now you are on the way to the operating room. Let it seem as though you are a nurse walking beside the carriage. You understand everything that Jane (use first name of the subject) is feeling and thinking but it will not bother you a bit. Let me know

when you see Jane there on the carriage by lifting your "yes" finger.

(d) When the signal is given the question is asked, "Is she worried at all?" If so the "nurse" is asked to explain why she thinks Jane is afraid.

(e) The description of the operating room is then requested, and then the subject is asked to continue standing by during the surgery if the patient is forty years or older at the time of interview. I consider it dangerous to take the chance of potential coronary spasm during reliving of an operating experience after age forty.

(f) The subject is now asked to go through the entire procedure and to signal by raising the left hand as the anesthetic has begun to work and by raising the right hand as the final stitch is placed in the skin.

(g) The operation is rehearsed a second time with the added suggestion that the right forefinger will go up "if you hear anything that might be disturbing to her."

(The dissociation is carefully emphasized in order to underline the fact that the subject "is a bystander and not able to feel pain or emotional stress.")

(h) When the finger goes up, the question is asked, "Will it be all right for you to hear this consciously?" If the request is refused, the question is added, "Would it be all right for you to tell me what you hear and then forget it?"

(i) It is rare for obstruction to occur if preparation has been carefully done in a permissive way that preserves the dignity of the subject.

Verbalization of the recollection follows. The subject is now asked to identify the voice and the direction from which it comes.

(j) Other incidents and their reactions are then called for and recorded until the hand indicates conclusion of

the operation. Asking for recognition of meaningful sounds greatly increases the total time of remembered surgery even when only the time between conclusion of discussion and the next signal are added up.

(k) If there have been recollections of disturbing incidents, these are explained and reasoned out with the subject until they can be understood and, if necessary, pardoned or the subconscious "allowed" to forget them in the future. This is an important part of the interview and must not be omitted.

DISCUSSION

There would be advantages in reporting here only subjects who had no knowledge of operating room mechanisms and atmosphere. The writer has held equally vivid descriptions of operating room conversation from uninitiated subjects from his own private practice. The example cases here presented are those which have been witnessed by a large number of physicians and dentists. For this reason they are less open to question of colored representation. They have all been tape recorded by at least one observer other than the writer.

SIFTING OUT OF MEANINGFUL MATERIAL

It has been evident from consideration of all the cases studied that only meaningful material seems to have been remembered. It has been impossible to get recall of such casual material as reports of golf or baseball games. Two private patients have been highly amused, one at the discomfort of the preparation nurse who was scolded by the surgeon for not adequately shaving the perineum, the other on overhearing the surgeon at the end of an operation laughingly saying he must have sewed up the scissors in the abdomen. These two patients must have been nearly out of anesthetic, for it is very unusual for the deeper levels

of subconscious awareness to give any evidence of humor.

HYPERSENSITIVITY TO PESSIMISM

During this study and another which is being done with obstetrical patients there has been a repeated demonstration of hypersensitivity to pessimistic remarks which have been picked up from lay people and given a stronger value than the reassuring statements of physicians. This is an important point if substantiated by the observation of other workers, for it should lead to more careful screening of preoperative patients for bad attitudes. It should lead to a more subtle form of reassurance than usually is employed by surgeons and anesthesiologists.

FAILURE OF DECEIT

It has been demonstrated by most of the subjects in this study that the subconscious is acutely sensitive to nuances of voice inflection. Sometimes it is difficult to be sure this perception is based only on minimal cues. Occasionally it seems that extrasensory perceptions may be at work. Whether by minimal cue or extrasensory, it is clear that patients under surgical anesthesia are just as aware of deceit and attempts to avoid the truth as are patients with malignancy or a critical illness. There are ways of telling unpleasant truth which do not close the door to hope. The writer has yet to find a patient who has not seen through a lie or failed to resent at a subconscious level the failure of his physician to trust him with the facts.

CONCLUSIONS

The patient in surgical plane anesthesia is able to hear meaningful sounds made in the operating room. The deep subconscious mind is devoid of humor. It records and associates communications in a most literal way. Disturbing sounds and conversation do not always evoke physiologic responses

at the moment of perception during the actual surgical experience, but the patterns of response are apparently set and may be released during reliving of the experience in age regression in hypnosis. Anticipation of another actual anesthetic experience can evoke these pre-set physiologic patterns of fear while in anesthesia (Case I, Omaha). Untoward reactions to anesthesia and surgery may in large measure be avoided through a better understanding of subconscious responses of fear. It is mandatory that we give consideration to all the conversation in the operating room with the same care that we exercise when the patient is awake. There are possibilities that prognosis for surgical cancer patients could be improved if thought were given to their anxieties before surgery and optimistic conversation carried on in the operating room as though we considered the patient out of earshot. This type of reassurance is acceptable. Direct reassurance from physician to patient may be acceptable to the conscious level of thought but is often rejected by the subconscious.

REPORTS OF CASES

CASE I

Showing effect of fear of undiscussed cancer during first operation followed by conditioned response to anesthetic in second surgery. Respiratory arrest.

Female subject, wife of physician student at Omaha, Nebraska, Symposium on Hypnosis, November 2, 1957.

This subject, approximately thirty-seven years of age, had gone through four operations at the time of the interview. Her first surgery was a breast biopsy at Mayo Clinic under sodium pentothal (approximately 1938). She had developed a lump and this was to be removed. Her surgeon had not discussed her unspoken fear that the lump might prove to be malignant. Under hypnosis at the time of signalling with her finger that the incision in the breast was being made, the respirations stopped for approximately 25 seconds. The pulse rate was being checked by an anesthesiologist from the

group of students. At the time the respirations stopped he reported a sudden change from a regular 84 beats per minute to 140.

Suggestions were now given that the patient was a nurse in the operating room just watching what was going on. The subject's respirations recommenced, and her pulse returned during the next two minutes to the former slow rate. The only verbal remark which was remembered by the subject was, "She's all right now."

The second operation under gas-oxygen-ether anesthesia was performed several days after marriage and was necessitated by volvulus of a dermoid cyst. The fact that the tumor of the ovary was probably not malignant at her age was not discussed before surgery. There was not time enough to explore the total memory for this surgery, but the patient indicated that she was having trouble after the incision was made because of her fear of cancer. The subject's husband had been in the operating room at the time of the second surgery. He reported after the hypnotic session that there had been concern over her reaction. The surgery was finally completed under very superficial nitrous oxide-oxygen anesthesia.

It would be a matter of conjecture as to whether the respiratory arrest might have been the result purely of an overdosage of sodium pentothal at the time of the first operation. In 1938 this anesthetic was still being given in high concentration and rather rapidly for induction. The subjective response of the patient while reliving the experience, however, was that the fear of cancer was heightened by the realization that the nodule would soon be exposed and that this was responsible for her stoppage of respiration. With finger signals she indicated that the second respiratory arrest was of the same origin even though a different anesthetic was being used.

It is noteworthy that the subject did not recognize consciously to what degree her subconscious fears were aggravated by the lack of discussion about the possible pathology. At a conscious level she had assumed that the risks must be inconsequential if the surgeon did not discuss them. To her subconscious the lack of discussion indicated that he must be worried about this possibility of cancer. In this case there was a constant knowledge of what was going on in the operating room even though very few words were heard. She sensed the concern of the operating-room personnel.

CASE II

Showing memory for details (positions, voices) and insight for attitude of the surgeons. (See Case IV.)

C. M., D.D.S.; Symposium, Honolulu, T. H., November 28, 1957.

This 27-year-old dentist volunteered for investigation of his appendectomy at the age of 15. He stated that he had always wondered if a "ghost" surgeon had done the operation but had never known just why he felt this. He was curious to find out if his impression was correct, and it was the impression of the writer that the curiosity was free of malevolence.

During the induction the subject related his sensation of light trance to that experienced after he had been knocked unconscious during a football scrimmage at the age of 16. Asked if there were another experience which felt similar he indicated a "yes" with his finger and regressed back to the induction of anesthesia for his appendectomy one year earlier. This equating of the hypnotized state with previous experiences of delirium or with unconsciousness from diabetic coma or chemical anesthesia has been frequent in the writer's experience.

Q: "Where are you now?"

A: "I think I'm in the O.R.—I'm not going down very well." (Respiratory rate jumps from 14-28.)

Q: "Are you scared?"

A: Finger: "No."

Q: "Do you hear any sounds?"

A: "The fan going—they are talking back and forth—not to me."

Q: "Is there anything that worries you?"

A: Finger: "Yes." Verbal: "No."

Q: "Would it be all right to hear it consciously?"

A: Finger: "Yes." Verbal after a pause: "You better cut here."

Q: "Where does it come from?"

A: "It seems to be coming from Sobie" (the family physician). The subject is now urged to go back over this and give the exact words as though he were replaying the record.

A: "I think we better cut here."

Q: "Is there anything after that that disturbs you?"

A: "Yes" (with finger after pause of ten seconds). Verbal: "It seems like they can't find it. It's tucked under,—that comes from the doctor on the left side of the table" (Sobie). After another pause

(25") "Come on, we got to get this out of here."

Q: "Whose voice is that?"

A: "It doesn't seem to be Sobie. He seems to be on the left and somebody else is on the right and somebody is down at the foot."

Q: "Does this statement frighten the deep part of your brain?"

A: Finger: "No."

Q: "Does the deep part of your brain feel anything?"

A: Finger: "No." Verbal: "Just a little hyper-awareness of the lower right quadrant." (Note the later-orientation choice of words.)

Q: "Do you feel any discomfort while they are looking?"

A: Verbal: "No."

When now asked to indicate the next thing, he states that nothing is being said, but he senses a feeling of relief and he knows they have found the appendix.

A little later the subject says, "Now the light is right over my head. It didn't use to be over my head. It's brighter. I guess they must have taken the mask off or something."

Q: "Are they finished?"

A: Finger: "No."

He now seems disturbed because, although they have talked as though finished with the surgery, they decide to put another clamp on the skin.

CASE III

Showing (1) differing attitudes towards prognosis at different strata of awareness and (2) importance of discussing previous operative history before attempting to pass gastric tube on anesthetized patient.

J. M., M.D.: Symposium, Honolulu, T. H., Dec. 6, 1957.

During the landing on the Marshall Islands in January 1943 the subject, as a medical officer, was inspecting an aid station when he was struck just above the left ilium posteriorly by a sniper's bullet. At first he did not realize the extent of the injury until he observed blood gushing from the abdominal wound of exit. While in a semi-stuporous state he heard his associate instruct the stretcher bearers to move him back to the hospital ship rapidly because "he's hurt bad." On the ship he was subjected to a four-hour emergency operation under open-drop ether. Multiple perforations of bowel were discovered and closed. Because of the contamination steel

wire was used for closure. He received one unit of blood and several of plasma. At the end of the abdominal closure it was decided to introduce a nasal Levine tube while the patient was still asleep with the anesthetic. He promptly began coughing, struggling and vomiting to such an extent that efforts were discontinued. They were unable to pass a gastric tube at any time. The resulting course was stormy. After ten years, while jerking a golf carriage over a rough place, he felt a tearing sensation in his abdomen. This was followed by severe pain, nausea, and vomiting. At emergency surgery under gas-oxygen-ether anesthesia a loop of small bowel was found torn open, apparently by one of the non-absorbable sutures placed accidentally through the muscularis at his first operation. At the end of surgery, while the patient was still asleep, the anesthetist tried to pass a nasal tube. During the ensuing struggle the patient tore open his incision and eviscerated on the table. His course was stormy. This history was obtained in the waking state.

The following is the reporting of events after the subject had been placed in deep hypnosis:

The subject was taken to the time of injury and asked to answer questions with the LeCron finger signals as well as verbally.

Q: "After you hear the medical officer say you are hurt badly, do you think you will make it all right?"

A: Finger: "No." Verbal: "I did until I saw the blood coming from my abdomen and then I knew the intestines would be torn and my chances would be poor."

Q: "Is there a deeper level of your mind that has a different thought?"

A: Finger: "Yes."

The scene is now shifted to the operating room on the ship, and the patient is asked to signal when he is asleep with the anesthetic and they have commenced to work. When he has indicated with his finger that this has occurred, he is asked to signal again as soon as he hears something that might disturb him. After twenty seconds his finger goes up and he says, "Doctor Snider is saying 'It has perforated the colon.'"

Q: "What does this mean to you?"

A: Verbal: "Trouble."

Q: "Now come up to the next thing that disturbs you." Finger signals again after lapse of 25 seconds.

Q: "What is happening now?"

A: "Doctor Richardson is asking 'Do you think he needs some blood?'" After ten seconds the finger again lifts. Subject now says, "We better put in a gastric suction tube."

Q: "What does this mean to you?"

A: "I couldn't swallow a Levine tube in physiology class. I had sworn nobody would ever put one in me. I knew I couldn't get the thing down—I didn't either."

The subject is now asked to jump ten years to the time of his bowel obstruction. Time does not permit covering the entire operation, but he hears the discussion about the steel wire having torn his bowel and the decision to try getting the nasal tube down. He again reacts with the thought while under anesthesia, "They will never get that thing down me!"

CASE IV

Showing (1) clear memory for discussion under avertin and nitrous oxide and subsequent oxygen-ether anesthesia, (2) importance of discussing possibilities of cancer even when patient has not asked about it, (3) error of using figurative language or sounding disconcerted during operation.

H. F., D.D.S.; Symposium, Tampa, Florida, January 3, 1958.

This 53-year-old dentist submitted to surgery twenty-four years before volunteering for interview under hypnosis. He had been suffering from peptic ulcer symptoms for about two years. With persistent findings of a defect in the stomach wall he was advised to have surgery. The patient was consciously worried over the possibility of cancer but was afraid to ask the surgeon at the time of his preoperative interview. He was disturbed over what he assumed to be evasion of the subject when he knew the possibility of gastric cancer had to be ruled out in cases like his. The omission signalled to him that the surgeon must really be worrying about that.

After induction into moderately deep trance it was learned by a combination of ideomotor responses and verbal answers that he was not afraid as he was being wheeled into the operating room while anesthetized with avertin, because he felt subconsciously sure he did not have cancer. This peace of mind was soon to be disturbed.

Operator: "Signal when you hear something that disturbs you." Subject signals

and then says, "One doctor is kidding the other. The one on the left side is saying, 'You're making a mighty big opening. What are you making the opening so big for?' Doctor John doesn't like to be kidded. He's saying, 'I don't want the wound to close up on me.'"

The patient is, because of his age, now dissociated to a position beside the operating table with full understanding of the patient and his reactions to what is going on. After a ten-second pause his finger signals another disturbing stimulus: "The intestines look like they've been burned." (Statement made by the surgeon standing on the right side of the table.)

Q: "Why does this disturb Hugh on the table?"

A: "He's afraid it wouldn't heal up."

Q: "Does this influence his heart rate or breathing?" (There is no apparent change in the subject's respiration as he is talking.)

A: "I don't know, it seems to make him weak."

Q: "His abdomen is open now. Does he feel any pain at this time?"

A: "Yes. It's a pain like burning."

Q: "Let your fingers answer this at a deep level. Does he really feel this?" Finger signals "Yes." "Could the sensation have been suggested by the remark about the bowel looking burned?"

A: "Yes."

Q: "Now come up to the next thing he hears that is disturbing." After fifteen seconds he signals and then says, "They are trying to tear the adhesions loose—they are having a hard time tearing them loose."

Q: "Who is having a hard time?"

A: "John."

Q: "What side of the table is he on?"

A: "The right side."

Q: "Let your fingers answer. Does he feel any pain now?"

A: Finger: "No."

Q: "Does the nurse say anything?"

A: "She talks to the other doctor. She says, 'He can't tear the adhesions loose!'"

Q: "Does he respond in any way to this conversation?"

A: Finger: "Yes." Verbal: "They are going to give him ether."

Q: "Does he have a mask on?"

A: "Yes."

Q: "What have they been giving?"

A: "Gas and avertin."

Q: "Tell me with your finger when he is asleep with the ether." The finger goes

up after a pause of ten seconds. "Now signal when he hears something else." (75 seconds.)

A: "The doctor says he is going to do a biopsy."

Q: "Does this disturb him?"

A: "Yes. He wonders if he has cancer."

Q: "Let your fingers answer for him. Deep down does he think he has cancer?"

A: Finger: "No."

Q: "What is the next thing he hears?"

A: "I'll never be able to get those adhesions loose."

Q: "Now go to the most important thing that happens during the surgery and signal."

A: "He's going to be all right."

Q: "Are you out of the anesthetic?"

A: Finger: "No."

Q: "Do you feel that the things you heard influenced you after surgery?"

A: Finger: "Yes."

After awakening, the subject reports that he had a stormy post-operative course with much distension and nausea.

CASE V

Showing that (1) assumptions cannot be safely made about the equanimity of physicians facing surgery, and (2) a possible relationship between fear of cancer and respiratory arrest during anesthesia.

M. B., M.D.; Symposium, Berkeley, California, March 22, 1958.

This 51-year-old physician volunteered for investigation of his experience during removal of his gall bladder at a teaching institution under the care of the professor of surgery. After returning from combat service during World War II he was suffering from bouts of diarrhea and right upper quadrant abdominal pain. The gall bladder would not concentrate contrast media well enough to be visualized by x-ray studies. It was finally decided to explore the upper abdomen with the probable aim of removing the non-functioning gall bladder.

Before hypnosis the subject was asked to describe his reactions to the diagnostic procedures and his acceptance of the decision to operate. His conscious recollections were very casual. He had confidence in the professor of surgery and he could recognize no fear of the surgery. He had been told after the surgery of his apparent sensitivity to curare, which he was led to believe caused a troublesome respiratory arrest.

Under moderately deep hypnosis he was

taken back over the preliminary study period. With a combination of verbal and ideomotor answers he was surprised to find that the non-visualizing gall bladder had symbolized the strong possibility of cancer in this area. He had expected the professor to discuss this possibility with him but, just as occurred in Cases I and IV, he was disturbed by the omission and concluded subconsciously that this was presumptive evidence that the professor must be considering this the most logical diagnosis.

Because of his age the subject was dissociated to the state of a bystander. When asked for a finger signal to indicate the hearing of something he raised a finger and remarked the difficulties the anesthetist was having in getting him to breathe. He had been receiving pentothal, but during the exploration of the gall bladder he had been given curare. He is asked while reliving the respiratory difficulty whether or not he was afraid. The finger signalled, "No." At this point the subject spontaneously concluded the hypnotic state he had been in. It was assumed that the experience was too threatening for him to continue. He was, however, still in a light state as indicated by his fixed expression and lack of eye movements. He was asked to let his fingers answer the following questions:

Q: "Was the difficulty with respiration due just to the curare?"

A: Finger: "No." Verbal: "That's funny. I had just assumed it must have been the curare."

Q: "Was it due to a fear of cancer?"

A: Finger: "Yes."

Q: "Was it due to anything that was said in the operating room?"

A: "No."

Q: "Was it just due then to your fear that they might be finding cancer?"

A: Finger: "Yes." (Compare this with Case I.)

In this case it would be fair to assume that the confusion in the operating room over the respiratory arrest might have added to the problem. The subject was aware of this. The real damage, however, was the silence of the surgeon regarding the dominant source of fear and his failure to discuss the pathology in the operating room. Silence can be as important as careless conversation.

CASE VI

Showing how subconscious anticipation and pessimistic attitude may be unrecognized at a conscious level before surgery. Recollection of surgeon's position at the table and remark on gravity of the situation.

E. P., D.D.S.; Symposium, Mexico City, April 22, 1958.

A dentist in his early forties volunteers for exploration of surgical experience with an appendectomy following rupture of appendix and generalized peritonitis. He is first questioned about the memory at a conscious level and reports how he fell on a stick of wood in his backyard while he was playing leapfrog at the age of eleven. The stick bruised his right side. The pain spread during the night, and he became increasingly ill until his uncle, a well-known surgeon in the community, came to the house on the third day of the illness. The diagnosis of ruptured appendix with generalized peritonitis was made and surgery recommended. This was before the advent of the sulfonamides. The subject, when asked, "Were you afraid when you were being taken to the operating room?" answered, "No, I wasn't afraid. Everyone else seemed to be. As a matter of fact I had a good time. There was a pretty nurse who used to play parcheesi with me after the operation."

Ten minutes later, while in a moderately deep hypnotic state, the subject signalled with his finger that he was reliving the experience of being pushed down the hall on the way to surgery.

Q: "Are you afraid, Ed?"

A: Subject starts to whimper and answers, "Yes."

Q: "Why are you afraid?"

A: "I think I'm going to die."

Q: "What makes you think that?"

A: "I heard my mom talking on the telephone before I came to the hospital. She said I was very sick and that I might not live."

Q: "Didn't Doctor Ward tell you you would be all right?"

A: "Yes (inflection of voice indicating disbelief), but I thought he was just telling me that to make me feel better."

Now the subject is asked to go deeper, to start with the beginning of surgery and indicate when something was happening. He indicates and then describes the opening of the abdomen and the sounds of disgust at

the color and odor of the pus. He feels as though he is seeing it and becomes slightly nauseated. Quickly he is dissociated from the subjective role. His nausea stops, and his respirations, which have jumped from 18 to 30 per minute, slow down again. He is asked to go further until he hears something being said. After signalling with his finger he says: "This is a serious situation. This boy will be in danger for several days." When asked for the location of the speaker he states that it is Doctor Ward

and he is standing on the right side of the operating table.

Note: Here is an excellent example of the worthlessness of simple reassurance from a physician. To be effective with a frightened patient reassurance must be in the form which indirectly indicates a favorable outcome without actually saying it. An example would be the telling of such a patient what he should do when he wakes up from surgery and how long it will be before he can return to school.

REFERENCES

1. Bramwell, J. M. *Hypnotism*. (Re-issue.) New York, Julian Press, 1956. P. 130.
2. Erickson, M. H. Discussion, Seminar on Hypnosis, San Francisco, April, 1956.
3. ———. Deep hypnosis and its induction. In L. M. LeCron (Ed.), *Experimental hypnosis*. New York, Macmillan, 1952. P. 79.
4. ———. Personal communication, October 1957.
5. ———. A study of clinical and experimental findings of hypnotic deafness. *J. gen. Psychol.*, 1938, 19, 127-167.
6. LeCron, L. M. A hypnotic technique for uncovering unconscious material. *J. clin. exper. Hypnosis*, 1954, 2, 76-79.
7. Lindsay, R. B., M.D., Montpelier, Idaho. Personal communication, 1957.
8. Selo, R., M.D., Council Bluffs, Iowa. Personal communication, 1957.

GROUP HYPNOSIS IN THE TREATMENT OF OBESITY

by Herbert Mann, M.D.¹

Group hypnosis is a modality that can be utilized by the busy clinician to save time and to take advantage of the benefits inherent in group therapy. While it is true that in working with groups there is some sacrifice of close interpersonal relationships, as was evident with one group of thirty-five patients, the disadvantage may be minimized by keeping the group comparatively small. In my own experience, limited to female patients, the optimum group consists of approximately ten patients. The comparatively small size encourages effective interaction among the individual members, and the interpersonal and intrapsychic relationships are not impaired to any appreciable degree.

Mass hypnotherapy should be limited to groups made up of patients with identical or very closely related problems. As an example, a number of patients with an obesity problem can be treated with the techniques used in group hypnosis.

The conventional treatment of obesity is a dismal failure, frustrating and discouraging to patients and physicians alike. With all too few exceptions, the patients sooner or later abandon the attempt to effect weight reduction, because of the mental anguish and suffering inherent in the usual dietary regime; or if the weight loss is satisfactory, there follows almost invariably a struggle to maintain the lower weight with frequent return to the original overweight status.

These patients are despondent, suffering, unhappy people desperately

seeking a permanent solution to their problems (1). They subject themselves to injections of hormones of one kind or another, to reducing pills of all colors, shapes and formulae, to fad diets, to massage and passive exercises, only to intensify the emotional components in an already anxious, discouraged, depressed patient.

The utilization of hypnosis in the treatment of obesity is a rational and effective approach to the problem. It is well recognized that over-eating is almost invariably the result of a disturbance in the basic personality of the patient which leads to an inordinate craving for oral gratification. Permanent improvement in overcoming the bizarre desire for food can only be expected if the basic personality difficulty is resolved (2).

The group meets once a week for six weeks with a follow-up session one month after the last weekly meeting. Each meeting lasts two or more hours. At the beginning of each session the patients are weighed, and the total number of pounds lost by the group is posted on a graph for all to see and enjoy.

At the first meeting we discuss the psychodynamics involved in the urge to overeat, and the psychologic aspects of oral gratification in infancy and adulthood.

The theme is gradually developed so as to start the group thinking about their own behavior and their own responses to their emotional conflicts and stresses, and the recognition of the association between eating and the sensation of pleasure.

There follows a discussion of hypnosis, its meaning, misconceptions, and the manner in which it will be utilized in developing proper eating habits. In

¹ 506 South Bascom Avenue, San Jose 28, California. This paper was presented at the First Annual Meeting of The American Society of Clinical Hypnosis, Chicago, October, 1958.

our experience, an authoritative approach, with suggestions for rapidly suppressing the appetite, and developing anorexia and perversion of taste, is of no permanent value and should be condemned. We should recognize the fact that obese patients enjoy eating, we should accept their behavior, while altering and manipulating their perception of the situation.

We have found that trance induction in groups of obese patients is remarkably simple, rapid, and effective. It may be that obese patients are more tractable by virtue of the unusual nature of hypnosis, which appeals to their latent infantile needs. It is also very likely that because they are so strongly motivated their response to trance induction is excellent. One or two waking suggestions, readily adaptable to groups, such as the hand claspings and postural sway tests, are utilized to choose a potentially highly suggestible subject, who is then hypnotized before the group. Others in the group frequently will also be found to spontaneously go into a trance. In any event, with little effort, the remainder of the group can readily be guided into trance (4).

The occasional resistant patient can be given special attention at a subsequent session. The criticism that not all patients are easily hypnotizable is of little practical importance, because even the recalcitrant patient almost invariably demonstrates hypnotic-like behavior which is just as effective in therapy. Towards the end of the first session, a post-hypnotic suggestion is given, and practiced, to facilitate even more rapid induction at sessions that follow.

Subsequent sessions are devoted to short discussions, on the conscious level, of the results obtained and subsequent goals. Thereafter, trance is induced and some time is spent in teaching the patients to respond to a variety of suggestions that not only result in

trance deepening, but satisfy their desire and need for achievement. At each session, another phenomenon of hypnosis is taught, leading to progressive increase in the patients' ability to operate within the hypnotic situation (5).

Patients are instructed in the development of mental images, each member of the group visualizing the demonstration subject and her trance phenomena, thus laying the foundation for future instruction in self-hypnosis, so that the patients may carry on and reinforce the suggestive type of therapy long after the sessions come to an end.

Through training in self-hypnosis, the patients develop self-sufficiency which permits the dependency relationship to be readily dissolved by the end of the final session. Auto-suggestion is made a part of the daily training habits of the patients, who learn to participate actively in overcoming their weaknesses.

Suggestions that are directly concerned with decrease in food intake are so constructed as to take advantage of the psychological needs of the subjects and to protect them by recognizing the obese patients' appreciation of food as a gratifying medium. Our goal is to convert the craving for large quantities of fattening food to an appreciation of the delight in learning to enjoy subtle flavors of small portions of non-fattening foods, to experiment with herbs and seasonings, to take delight and pleasure in creating and serving exotic and attractive salads, fruits, high protein foods, etc., to eat slowly and to take pleasure in savoring each small bite of food, to learn to appreciate the color, aroma and texture of the non-fattening foods, to indulge the palate rather than the appetite; in other words, to direct attention to the joys of good living as a substitute for oral gratification by over-indulgence.

Suggestions are also directed towards emphasizing the feeling of confidence in their ability to achieve their

goal, towards increasing motivation by a discussion of physical well-being and attractiveness as a concomitant of losing weight.

In conclusion, it should be emphasized that group hypnosis in the treatment of obesity is of tremendous advantage in that it establishes an unusual kind of interpersonal relation-

ship and rapport which is so well adapted to anxious, frustrated, despairing patients. It is a concise program which approaches the problem in an unusual, encouraging manner. It lends itself ideally to this type of psychotherapy which involves guidance, reassurance and persuasion, in an atmosphere of genuine interest and enthusiasm.

REFERENCES

1. Stunkard, F. J., Grace, W. J., and Wolff, H. G. The night-eating syndrome. *Am. J. Med.*, 1955, **19**, 78-86.
2. Wolberg, L. R., *Medical hypnosis*. Vol. 1. New York, Grune & Stratton, 1945.
3. Bowser, L. J., Trulson, M. F., Bowling, R. C., and Stare, F. J. Methods of reducing: group therapy vs. individual clinic interview. *J. Amer. Dietet. Assn.*, 1953, **29**, 1193-1196.
4. Weitzenhoffer, A. M. *General techniques of hypnotism*. New York, Grune & Stratton, 1957.
5. Erickson, M. H. Deep hypnosis and its induction. In L. M. LeCron (Ed.), *Experimental Hypnosis*. New York, Macmillan, 1952.

HYPNOSIS IN PAINFUL TERMINAL ILLNESS¹

by Milton H. Erickson, M.D.

The use of psychological measures in the treatment of human illness, whether organic or psychological or a combination of both, is as old as human history. In fact, the psychological aspect of medicine constitutes the art of medicine and transforms the physician from a skillful mechanic or technician into a needed human source of faith, hope, assistance, and, most importantly, of motivation for the patient toward physical and mental health and well-being.

Hence, with this integral relationship between psychology and medicine, it is not surprising that hypnosis as a psychological measure should be considered, seriously and rightly, in the treatment of painful terminal illness, particularly the last stages of malignant disease. However, as a preliminary statement, it must be emphasized that hypnosis is not an absolute answer and that it cannot replace other medical procedures. Rather, it is no more than one of the adjuvants or synergistic measures that can be employed to meet the patient's needs.

To present this topic to you, it might be well first to define both hypnosis and the rationale of its use. Essentially, hypnosis is a state of intensified attention and receptiveness and an increased responsiveness to an idea or to a set of ideas. There is nothing magical or mystical about it; it is attentiveness to, absorption in, and responsiveness to an idea or a whole group of ideas. We see this sort of things repeatedly in everyday living where hyp-

nosis is not involved—the automobile driver who forgets everything he should keep in mind because he is fascinated by the white line in the middle of the highway or by the scenery along the roadside, or the man unwisely and so intensely interested in a woman that he literally forgets everything that common sense has taught him.

In medicine, as well as in dentistry, this normal everyday capacity for intensely directed attention can be employed to concentrate and redirect a patient's attentiveness and responsiveness in an altered fashion so that he benefits through a new and learned responsiveness to selected stimuli. This constitutes the use of hypnosis in painful terminal disease.

In treating such patients, the question is not one of treating the illness itself, since the patient is both dying and suffering painfully. The primary problem is how to treat the patient so that his human needs may be met as much as possible. Thus, it becomes a complex problem of what the physical body has to have and what the patient as a personality needs, since cultural and individual psychological patterns are of as much and perhaps greater importance than the physiological experience of pain.

Before this audience, there is no need to offer suggestions concerning the proper medically oriented procedures to employ in meeting the physical needs of the body. However, this statement should be made about meeting the physical needs of the body: Such treatment is just as important as the treatment of the psychological needs of the patient as a personality and should never be discredited. In fact, it is a prerequisite for any psychological treatment. Therefore, the question

¹ Presented before the Eighty-Second Annual Session of the Arkansas Medical Society, May 6, 1958, at Hot Springs, Arkansas, and being published simultaneously by *The Journal of the Arkansas Medical Society*.

becomes, What is the adequate but at the same time the minimal treatment of the body? That it be minimal though adequate is essential, because in terminal painful disease, sedatives, analgesics, and narcotics are employed that may deprive the patient of the privilege of knowing that he is alive and of enjoying what pleasures yet remain; also, they deprive his relatives of adequate contacts with the patient. Hence, medication should be administered only in those quantities that meet the physical requirements without obstructing or defeating those psychological needs vital to the total life situation and which also require satisfactions even more than the physical.

To illustrate this point and to clarify the foregoing discussion, three case reports will be cited:

REPORT 1

The first patient was a 37-year-old woman of grade-school education, mother of four children, dying of advanced metastatic carcinomatous disease originating in the uterus. For the three weeks preceding hypnosis, she had been kept in a narcotic semistupor, since this was the only way to control her pain, to enable her to sleep, and to enable her to eat without extensive nausea and vomiting. The woman understood her condition and resented helplessly her inability to spend the remaining weeks of her life in contact with her family. The family physician finally decided to have hypnosis employed.

The situation was explained to the woman, and narcotics were omitted on the day she was to be hypnotized so that this could be done without excessive drug interference.

Approximately four continuous hours were spent with the woman, systematically teaching her, despite her attacks of pain, how to go into a trance, how to develop a numbness of her body, how to absorb herself in a state of profound fatigue so that she could have physiological sleep despite pain, and how to enjoy her food without gastric distress. No elaborate explanations were necessary, since her educational limitations and the desperateness of her situation motivated a ready acceptance of suggestions without questioning doubts. Additionally, she was trained hypnotically to re-

spond to her husband, her oldest daughter, and to her family physician, so that hypnosis could be readily reinforced in the event of any new development.

This one time was the only occasion on which the patient was seen by the writer. Her motivation was so great that the one hypnotic training session was sufficient.

The previous medication, it was found, could actually be discontinued, except for one heavy hypodermic administration late Thursday evening. This gave her additional relief and it allowed her to be in full contact with her family in a rested state on the week-ends. Also, she shared in the family evening activities during the week.

Six weeks after her first trance, while laughing and talking to her daughter, she suddenly lapsed into a coma and died two days later without recovering consciousness. Those six weeks had been decidedly happy and pain-free for her.

REPORT 2

This 35-year-old woman, the mother of four small children and the wife of a professional man, was seen five weeks before her death from lung cancer. For a month before hypnosis, she had been almost continuously in a narcotic stupor, since the pain she experienced was unbearable to her. She asked that hypnosis be employed and voluntarily went without medication that entire day in her own self-determined effort to ready herself for hypnosis.

She was seen at 6:00 P.M., bathed in perspiration, suffering acutely from constant pain and greatly exhausted. Nevertheless, approximately four hours of continuous effort were required before a light trance could be induced. This light stage of hypnosis was immediately utilized to induce her to permit three things to be accomplished, all of which she had consistently refused to allow in the very intensity of her desire to be hypnotized. The first of these was the hypodermic administration of 1/8 grain of morphine sulfate, a most inadequate dosage for her physical needs, but one considered adequate for the immediate situation. The next was the serving to her of a pint of rich soup, and the third was the successful insistence upon an hour's restful physiological sleep. By 6:00 A.M. the patient, who finally proved to be an excellent somnambulistic subject, had been taught successfully everything considered to be essential to meet the needs of her situation.

The procedure followed was probably unnecessarily comprehensive, but the situation did not warrant any approach less

inclusive. The first step was to teach her positive and negative hallucinations in the modalities of vision, hearing, taste, and smell. Then she was taught positive and negative hallucinations in the areas of touch, deep sensation, and kinesthesia, and in relation to this latter type of sensation, she was taught body disorientation and dissociation. When these learnings were sufficiently well acquired, the patient was given suggestions for glove and stocking anesthetics and these were extended over her entire body. Thereupon it became possible to teach her rapidly combined partial analgesias and anesthetics for both superficial and deep sensations of all types. To this was added a combination of both body disorientation and body dissociation so that these latter could supplement the former.

The patient was not seen again, either professionally or socially, but her husband telephoned or gave reports in person daily concerning the patient's condition.

She died suddenly five weeks later, in the midst of a happy social conversation with a neighbor and a relative.

During that five weeks' period, she had been instructed to feel free to accept whatever medication she needed. Now and then she would suffer pain, but this was almost always controlled by aspirin. Sometimes a second dose of aspirin with codeine was needed and, on half a dozen occasions, 1/8 grain of morphine was needed. Otherwise, except for her gradual progressive physical deterioration, the patient continued decidedly comfortable and cheerfully adjusted to the end.

REPORT 3

The third patient was a professionally trained man of advanced years, who understood fully the nature of his carcinomatous illness. Because of his educational background, it was both necessary and advantageous to develop the hypnotic suggestions with care in order to secure both his intellectual and his emotional cooperation. While resigned to his fate, he resented greatly the narcotic stupors he developed when given sufficient medication to control his pain. It was his earnest desire to spend his remaining days in the fullest possible contact with his family, but this he found difficult because of the severely agonizing recurrent pains he suffered. As a solution, he requested hypnosis and he himself discontinued medication for twelve hours in order to avoid a possible narcotic interference with a trance development.

At the first hypnotic session all suggestions were directed to the induction of a

state of profound physical fatigue, of overwhelming sleepiness, and of a need to enter physiological sleep and to rest sufficiently to permit the induction of an hypnotic trance. A light trance was induced that almost immediately lapsed into a physiological sleep of about 30 minutes' duration. He aroused from this definitely rested and most firmly convinced of the efficacy of hypnosis.

A second and, this time, medium trance was then induced. Systematically a series of suggestions was given in which a direct use was made of the patient's actual symptomatology. The rationale for this was to validate the hypnotic suggestions through utilization of the experiential validity of his symptoms.

Thus the patient was told that his body would feel tremendously heavy, that it would feel like a dull, leaden weight, so heavy that it would feel as if sodden with sleep and incapable of sensing anything else except heavy tiredness. These suggestions, repetitiously given and in varying phraseology to insure comprehensive acceptance, were intended to utilize the patient's feeling of distressing weakness, previously unacceptable to him and to combine it with the complaint of "constant, heavy, dull throbbing ache." In addition, suggestions were given that, again and again, as he experienced the "dull, heavy tiredness" of his body, it would periodically go to sleep, while his mind remained awake. Thus his distressing feeling of weakness and his dull throbbing ache were utilized to secure a redirection and a reorientation of his attentiveness and responsiveness to his somatic sensations and to secure a new and acceptable perception of them. Also, by suggesting a sleeping of the body and wakefulness of the mind, a state of dissociation was induced. The next step was to reorient and redirect his attentiveness and responsiveness to the sharp, brief, constantly recurring, agonizing pains from which he suffered, usually less than ten minutes apart. These pains, while brief, less than one minute in duration as timed by a watch, were experienced by the patient subjectively as "endless" and as essentially "continuous" in character.

The procedure followed included several steps.

First of all, he was oriented in relationship to subjective time values by asking him, at the expiration of a sharp pain, to fix his attention rigidly on the movement of the minute hand of a clock and to await the next sharp pain. The slightly more

than seven minutes of waiting in anticipatory dread seemed hours long to the patient, and it was with definite relief from his feeling of wretched expectation that he suffered the next sharp pain. Thus anticipation and pain, as separate experiences, were differentiated for him. Also, he acquired in this way an understanding of time distortion (1), particularly that aspect of time distortion related to the lengthening or expansion of subjective time experience.

Next a careful explanation was given to him that freedom from the experience of pain could be accomplished in several ways—by anesthesia and by analgesia, both of which he understood, and by amnesia, which he did not understand. The explanation was offered that in amnesia for pain one could experience pain throughout its duration, but that one would immediately forget it and thus would not look back upon the experience with a feeling of horror and distress, nor look forward to another similar pain experience with anticipatory dread and fear. In other words, each recurrent sharp pain could be and would become a totally unexpected and completely transient experience. Because it would be neither anticipated nor remembered, it would seem experientially to have no temporal duration. Hence, it would be experienced only as a momentary flash of sensation of such short duration that there would be no opportunity to recognize its character. In this fashion, the patient was taught another aspect of time distortion, namely a shortening, contraction, or condensation of subjective time. Thus, in addition to the possible hypnotic anesthesia, analgesia, or amnesia for the pains, there was also the hypnotic reduction of their subjective temporal duration which, in itself, would serve to diminish greatly the pain experience for the patient.

When these matters had been made clear to him, he was urged most insistently to employ all of the mechanisms that had been suggested—alteration of body sensations, body disorientation, dissociation, anesthesia, analgesia, amnesia, and subjective time condensation. In this way, it was argued, he could quite conceivably free himself from pain more readily than by employing a single psychological process. In addition, the suggestion was also offered emphatically that he employ subjective time expansion to lengthen experientially all periods of physical comfort, rest or freedom from pain.

By this variety of differently directed suggestions, repetitiously given and in dif-

ferent phrasings to insure adequate comprehension and acceptance, the patient's sharp recurring pains were abolished in large part insofar as observation of his objective behavior and his own subjective reports were concerned. However, it was noted that periodically he would lapse into a brief unresponsive stupor-like state of ten to fifty seconds' duration, an item of behavior suggestive of a massive obscuring reaction to pain. It was noted that these were less frequent and shorter in duration than the original sharp pains had been. It was also observed that the patient appeared to have no realization whatsoever of his periodic lapses of awareness.

No systematic inquiry could be conducted into the actual efficacy of the suggestions. The patient simply reported that hypnosis had freed him almost completely of his pains, that he felt heavy, weak and dull physically, and that not over twice a day did any pain "break through." His general behavior with his family and friends validated his report.

Some weeks after the beginning of hypnotic therapy, the patient lapsed suddenly into coma and died without recovering consciousness.

SUMMARY AND GENERAL COMMENTS

A presentation has been offered of the utilization of hypnosis in terminal painful disease. Three case reports, not entirely typical, have been presented in order to illustrate more adequately the actual possibilities of therapeutic benefits.

An effort has been made to describe the therapeutic methodologies employed, but this effort is not fully possible. Hypnotherapeutic benefits, especially in such cases as reported here, are markedly contingent upon a varied and repetitious presentation of ideas and understandings to insure an adequate acceptance and responsiveness by the patient. Also, the very nature of the situation precludes a determination of what elements in the therapeutic procedure are effective in the individual case.

These three case reports indicate definitely that hypnosis can be of value in treating terminal painful illness. However, it is not to be regarded as

an absolute answer to all the medical problems involved. Rather it is one of the possible approaches in the handling of the patient's problems that possesses special and highly significant values at both psychological and physiological levels.

While hypnosis can sometimes be used alone as a means of pain control

in carcinomatous disease, more often it is properly used as an adjuvant. In that capacity it can serve to diminish significantly the actual drug dosage and to effect a much greater relief both mentally and physically. In all probability, the more comprehensive psychologically the hypnotic approach, the greater is the possibility of therapeutic results.

REFERENCE

1. Cooper, L. F., and Erickson, M. H. *Time distortion in hypnosis*. Baltimore, Williams & Wilkins, 1954. This book deals extensively with experimental and clinical aspects of alterations of subjective time perception.

EXCORIATED ACNE CONTROLLED BY POST-HYPNOTIC SUGGESTION

by Mark B. Hollander, M.D.¹

Acne at any age is a profoundly traumatic experience to its victim. Concern about personal appearance may be maximal in adolescence, when the developing individual first becomes aware of the opposite sex as such, but there does not seem to be any age at which the non-psychotic patient is not disturbed by that which affects adversely the appearance of the face.

The orientation and the acting out of the anxieties and frustrations engendered by facial acne vary within wide limits. Some patients overcompensate in extratensive directions, others become completely withdrawn, and most avail themselves of the many possibilities between those two extremes. It seems quite natural that many should retaliate by attacking the acne directly, trying to press out and thus to get rid of the offending blackheads and pimples. This is a frustrating endeavor, though, for new blackheads continue to form and pimples, when squeezed, often spread and get worse.

The well-meant nagging and comment by parents and relatives and the not-so-well-meant teasing by contemporaries are usually most helpful in increasing the anxiety and in compounding it with guilt feelings. The focus of the picking gradually shifts. The effort to rid one's face of noxious blemishes is now a device for punishing oneself, and this quickly becomes masochistic. The masturbatory equivalence of such manipulations of the

skin can scarcely be ignored. So, the picking winds up as a compulsive act.

The dermatologist consulted by the patient at this point has his hands full. The acne may have become completely quiescent, but the patient and her family doctor identify excoriation, blood crust, and pitted scar with acne and demand relief of acne. Treatment directed at acne alone cannot be adequate, for acne is no longer the difficulty. Nothing will be adequate unless the patient can be induced to stop picking, and he or she is usually unwilling or unable to do this.

Two such patients came to hand in March 1958. The success achieved rapidly in both cases through suggestion stood in such marked contrast to the results usually obtained in such circumstances as to seem worth a preliminary report.

1. A 19-year-old college student had had acne for four years, with no previous dermatologic care. There were mild premenstrual flare-ups, and there had been a great deal of picking of the face. There was a moderate amount of superficial excoriated acne on the face, with blackheads conspicuously absent. Under five weeks of routine dermatologic care, including regulation of diet, mild cleansing, and keratolytic reducing agents on the skin and scalp, the pimples were gone, but there were still bitter complaints about "acne," and the face showed many blood-crusts excoriations.

It was recognized that the basic trouble was no longer acne, but the results of picking. Efforts during the preceding five weeks to get the girl to keep her fingers away from her face had accomplished nothing, so it was decided to try post-hypnotic suggestion. She went into a somnambulistic trance readily, and was told that when she wanted to pick her face she was to remember the word "scar." This word was to symbolize the effects of picking on her face and her appearance. Since she did not want to spoil her appearance, she would be able to refrain from picking merely by saying "scar."

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One week later there had been no picking, and the face was smooth. The suggestion was reinforced on three occasions in late March and late April. In mid-May, there had been occasional picking, but no excoriations or crusts could be seen and the patient felt that she was under good control. This remained true in September.

2. A 32-year-old housewife had had a few inconsequential pimples in adolescence. Eighteen months ago she developed severe cystic acne. Another dermatologist gave her compresses, injections, antibiotics, and 900 r of x-ray without benefit. The face was covered with heavy makeup. There were several excoriated blood-crusts cystic lesions on the chin, cheeks, and forehead. When the makeup was removed, no blackheads or superficial pimples could be seen. The patient said that she could not help picking her face when she got near a mirror, and that she often started to pick while watching television.

It was explained that she no longer had acne, but merely the effects of picking, which she was advised to stop. Routine topical therapy was prescribed for the oily skin and for what acne might develop. There was no improvement in the face or the picking in a week, so it was suggested in deep trance that when the patient said "scar" it would symbolize all of the effects of picking and would remind her that picking would cause more trouble, which she did not want. This would enable her to avoid picking. The suggestion was reinforced several times in April and May. The face improved steadily.

At the end of June, the patient was still picking occasionally, but she was able to stop before doing any damage. There were no visible excoriations, the cysts were almost gone, and no makeup was being worn. The patient was beaming, for her friends had commented about how well her face

looked. She was still beaming in September.

In general, symptom displacement through hypnosis seems of questionable advisability. The symptom is serving a function which may not be at all obvious, and if that symptom is displaced its function may be taken over by something even more undesirable. There is also the ever-present possibility that the non-psychiatric physician may, in displacing a symptom, precipitate something too hot for him to handle.

The specific situation of excoriation of acne does not seem to fall into this general category. It bears little resemblance to ordinary neurotic excoriation. What started the picking originally was the same thing which is bothering the patient now, the appearance of the face. Without regard to the associated difficulties which may have attached themselves to the picking, this appears to be a self-contained situation in which improvement in the appearance of the face allays anxiety about it, so that the need to pick is actually diminished.

This is a preliminary report, for two cases are not enough to justify anything more than encouragement to investigate further. The experience in these two cases, though, has been so far superior to the results usually seen in such instances as to warrant continuing along this line of post-hypnotic suggestion.

HYPNOSIS IN CHILDREN: THE COMPLETE CURE OF FORTY CASES OF ASTHMA

by H. H. Diamond, M.D., F.A.C.A.¹

For many years in my work with children, I have been fascinated and intrigued by the idea of the use of hypnosis in the treatment of children for many of the so-called "bad habits" of childhood, thumb sucking, bed wetting, finger nail biting, gagging, etc. After meeting with significant success in these cases and finding that hypnotherapy with children was not only feasible but offered no extreme difficulties, if one is patient and devotes enough time to the preliminaries of its use, I extended my efforts to the treatment of asthma in childhood.

Realizing how important the psychogenic factor is in the cause of asthmatic attacks, having seen how often an asthmatic attack is brought on by stress and strain and by emotional factors, having seen instant relief in many children by removing them from the home environment, it became apparent to me that hypnosis could be used in searching out these emotional factors, bringing them to the conscious mind, so that the child would understand this factor in the causation of its asthma, and by removing it as a causative factor, drop the "asthma level" to a point where the asthmatic symptoms disappear. At this point let me explain what I mean by "asthmatic level". Ordinarily, no one factor is the cause of obvious asthmatic symptoms, as we are familiar with them, the cough, the chest distended with air, the patient

fighting to get air out of the chest, hence the expiratory wheeze, with the short "in" breath and the prolonged "out" breath, the crepitant piping rales, heard all over the chest, a thoroughly miserable, uncomfortable, and frightened patient. Usually there is a multiplicity of causes in the building of the obvious asthmatic symptoms, possibly an allergy to wheat, to chocolate, to tomato, to egg, etc., and perhaps also an emotional factor. Of course, with a strong allergy to any one of these factors, any of these could cause asthma, but, as I see it, we may in many cases liken the causes of asthma to that of climbing up a mountain which has numerous plateaus, starting at the base of the mountain with the average child, then with an allergy to wheat reaching the first plateau, let us say, with an allergy to chocolate the second plateau, with an allergy to wool the third plateau, and perhaps the emotional factor, or the environmental factor, still another plateau. Now at some point in the "climbing of the mountain" we will reach the level of obvious outward symptoms of asthma. Each of these subminimal factors will not cause the obvious symptoms, but through a process of summation at some point we reach a plateau at which the symptoms appear. Manifestly, in the treatment of asthma, by testing we can reach out the various known allergens, and by elimination of these factors or by treating with vaccine therapy, drop "down the mountain" so to speak, below the "asthmatic level," and thus remove the bothersome asthmatic symptoms. This we can do with chocolate, with wheat, with ragweed, with grasses, with molds, etc. When the environ-

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mental or emotional factor is considered, however, the treatment is not so clear-cut or simple. Consultation with the family, psychotherapy, sympathetic understanding, and rapport with the patient are very effective. The obvious success in many cases by simple removal from the home environment is well known. The results of the Denver Home for Asthmatic Children are most gratifying. However, these procedures are very time consuming and very expensive, as well as drastic, in their upheaval of the home environment and the removal of the child from the family background.

It occurred to me that, if hypnotherapy could be used, perhaps this would be a very effective adjunct to our medical armamentarium in our treatment of childhood asthma. Please do not misunderstand me—I offer this as no cure-all for allergies with known causes. In asthma there is no replacement for vaccine therapy. But hypnotherapy does offer a way to achieve success in those cases treated with vaccine therapy with poor results, because of the emotional or environmental factors involved, and also those in which the skin tests divulge no startling or definite reactions and the emotional factor alone seems the basis of the condition.

In some cases removal of the emotional or environmental factor alone is enough to drop "down the mountain" far enough to fall below the "asthma level" before mentioned. Hypnotherapy and hypnoanalysis seemed a possible way to achieve the removal of these causes of childhood asthma.

I have used a number of methods in my work with children. Usually the first session is used in familiarizing the patient with the procedures used, the word hypnosis at all times being carefully avoided. This is because, surprising as it may seem, even some six-year-olds have heard some of the common misconceptions of hypnosis and have assumed some of the fears that

many people have of any unknown procedure. However, if directly asked, "Doctor, are you hypnotizing me?" my answer is, "If you mean hypnosis as you have seen it on the stage—no. This is entirely different. This is a form of medical treatment, which teaches you to relax and throw off the surface tensions and fears that may be causing or aggravating your condition." This is usually well accepted, and the bugaboo is thus bypassed.

In our beginning session I usually sit and talk quietly with the child for some moments about numerous unrelated things—how old he is, what is his favorite sport, his favorite food, etc. This talk usually puts the child at ease and starts the building of the rapport one is trying to achieve. Then I may say, for example, "Ruthie, you look like a smart little girl. I had another girl here yesterday, and I showed her a game of 'let's pretend,' and she did very well with it, but I bet you can do it even better than she can. Did you ever play 'let's pretend?'" Now of course every child has many times played this never-ending childhood game, and I have aroused the competitive spirit as well as flattered the ego of Ruthie with my opening phrases. She is therefore interested and eager to play this familiar game. I then assure myself that the child is in a comfortable position, and I ask her to take a number of deep expirations and inspirations and to make herself thoroughly comfortable and relaxed on the chair. Then I may say to the child, "Ruthie, please pick out a spot on the ceiling above your head and look at it, with the head looking straight forward and the eyes rolled up to look at the spot." This is a position of extreme fatigue for the eyes, and soon they begin to tire. In a constant monologue, I then say, "Ruthie, keep looking at the same spot. Your eyes will begin to become tired, so tired, then they will begin to blink and water

[which they will of course do], and after they become so very tired and you can't possibly keep them open any longer, you may let them close, and then they will feel so good, so very good, and now if with the eyelids still closed and still pretending to look at the same spot you try to open your eyes, you will find that you cannot possibly do this." (It is a physical impossibility to open the eyes when the eyelids are closed and one is looking toward an imaginary spot above the head with the eyes rolled upward.) This procedure immediately builds the rapport and the confidence of the patient in the operator, and we have passed the so-called "critical factor." We may now proceed with further instruction of the patient. I now say, "That is fine, Ruthie, you are doing just beautifully. Now, in the same way that your eyes are relaxed, I want you to allow every muscle in your body to relax. Take several nice deep breaths and let every muscle in your body go limp." Here I may test the arm for flaccidity and show the patient how limp I want the muscles, in allowing the arm to drop of its own weight without being held back at all. Shortly I am able to obtain the relaxation desired. Now through arm levitation technique, which works very well with children, I achieve deeper relaxation.

Usually this is as far as I go with the first session. I always precede closing of the session with instructions as to relaxing much more quickly at the next session and possibly suggest the use of a signal for quick induction. One thing I might stress: deep hypnosis is not necessary for many conditions in which hypnotherapy is used. One eight-year-old who always gagged whenever he was going to go anywhere, even though he wanted badly to go (for instance, a ball game), gagged so badly that he spoiled things for everyone, including himself. While he was a good subject for hypnosis, yet

I always felt that no deep stage was achieved. He took no post-hypnotic suggestions, for instance, nor could I achieve arm rigidity, yet after only three sessions the gagging stopped, although it had gone on for years. The sessions were never longer than thirty minutes in duration. Therefore one should never be disheartened if deep hypnosis is not achieved and should certainly try hypnotherapy regardless.

I have found that hypnotherapy sessions should never last longer than one hour, and frequently only a half hour session is sufficient. Anything more may be very tiring to the child and may destroy the rapport being built.

At our second session, it is usually found that deeper relaxation is achieved and more rapidly, as the confidence of the patient has been built. Sometimes, when difficulty is noticed, I believe the child is trying so hard to follow instructions that this in itself defeats our purpose, and by reassuring the patient and telling him or her to "Relax—it isn't necessary to try so hard, you don't have to work at it—just relax, and these things will occur," then our results become much more successful.

Older children may have a deep fear of close relationships with people, which cause them to control themselves very rigidly in various areas of their functioning. Their inability to establish close relationships with people produces a desperate loneliness, for which they seek therapy. At the first trance session, this desire for help has been intense enough to produce a motivation to be hypnotizable and thus has enabled them to achieve a medium trance. However, the very assumption of the trance state opposes their character-defense of absolute self-control. Following the first session, therefore, his response may be hostility toward the physician, or anxiety at having exposed himself to possible hurt. These emotions may be entirely suppressed.

The only response the patient will show is an intensified desire for detachment, which will reflect itself in resistance against further hypnosis. The patient should be questioned, therefore, about his reactions to the last session, and if the cause is thus ascertained, his fears must be allayed and clarified for his understanding, and suggestions must be made in the second trance which take into account these reactions.

Another common cause of failure is the "fear of failure" itself, both by the operator and the patient too. As for the operator, confidence must radiate from him, must be in every timbre of his voice, and failure must never be in his thoughts. It is not necessary nor right to call a session a failure, if after a few attempts immediate response is not achieved. A child may try hard to achieve a trance and actually be afraid of failure, and this in itself obstructs the efforts of the doctor.

Trance induction and satisfactory depth in some children may be achieved when their aptitude is challenged. Such children need to be told, if old enough to understand, that a person's ability to achieve relaxation depends upon a considerable amount of intelligence and concentrative ability. Because of a competitive desire to excel the patient may succumb to this lure, where everything else fails.

In certain refractory patients, I have made it a practice to have another child present who is a very good subject, and to enlist the aid of the refractory patient in the treatment of the good subject, by thinking along with me of the commands I am giving to the other child, thus having him willy-nilly succumb to the very suggestions strenuously resisted before.

SOME HISTORICAL CONSIDERATIONS

Elliotson (1) found children easy to hypnotize and stated that he could thus cure or relieve many of their diseases. At the same time he insisted upon the injury done

to them by the ordinary medical treatment of the time.

Wetterstrand (2) found that children from three or four to 15 years of age could be influenced without exception.

Bérillon (3) hypnotized 80 per cent of 250 children at the first attempt.

Liébeault (4) also found children peculiarly susceptible, and one of his statistical tables records 100 per cent of successes up to the age of 14. In adult life, age apparently makes little difference. In the same table we find that from the ages of 14 to 21, the failures were about 10 per cent, and from 63 years upwards about 13 per cent.

I wish I could be so confident of results as Wetterstrand and Bérillon. I have not been successful under five years of age. My series of cases is much smaller, and perhaps my results will improve with more experience and prestige as an operator.

Bérillon (3) reported on the value of hypnosis in the treatment of children to the First International Congress of Hypnotism at Paris in 1889 as follows:

1. Many carefully observed facts prove the therapeutic effect of suggestion in the following diseases of children: incontinence of urine and feces, nervous twitchings, nocturnal terrors, onanism, blepharospasm, and other disturbances of the nervous system of a functional character.

2. So far no appreciable results have been obtained in cretinism, idiocy, or deaf mutism.

3. Suggestion constitutes an excellent auxiliary in the education of vicious and degenerate children, especially where there are habits of lying, cruelty, inveterate idleness, or cowardice.

4. Suggestion should be confined to cases where the usual methods of education have failed, and medical men alone should employ it. It is not necessary to hypnotize normal children; ordinary training should be sufficient for them. When, however, children are addicted to theft and other vicious or repulsive habits, and are afflicted with disgusting infirmities, we ought to try to cure them by hypnotism, especially when their parents are in despair because of the failure of all other forms of treatment.

These suggestions were adopted unanimously by the Congress and transmitted to the Minister of Public Instruction and the Minister of the Interior.

My series of cases started on January 6, 1954. I have used hypnotherapy and hyp-

noanalysis in 55 cases. In five cases I had complete failure of even a light induction.

Balyeat (5) studied the mental capacity of allergic children, finding that among them 68.75 per cent were mentally superior, contrasted with 25 per cent among non-allergics. Perhaps, if this is to be believed, we might explain my success with allergic children on this basis. However, before we place too much faith in this, I hasten to add that another study by Piness and others (6), in which four different psychological methods were used, it was found that:

1. Children with asthma are very similar in intellectual level to a normal group, with the variations of a normal group. They include children of superior, average, and inferior intelligence.

2. There might be some indication that the incidence of allergy is less in the feeble-minded group, but the data available are very general and not statistically reliable.

3. As far as school success is concerned, the allergy group is similar in grade placement to the normal group.

4. There is evidence in the allergy group of slightly more school retardation than should be expected if their illness had not handicapped them.

In ten cases out of my 55, I had only fair to passable results. In 40 cases I have achieved complete remission of symptoms, in some cases for as long as four years and in all cases for at least two years. These are all children previously treated by vaccine therapy, some by me, some by other allergists, with poor results, a great number having been tested and retested with years of vaccine therapy and little or no results.

My oldest patient was 13 years of age, with asthmatic symptoms since the age of three. She had been tested for allergens three times by three different allergists, had received vaccine therapy over a period of ten years, with asthmatic attacks as often as ten times a month, year round in duration with some seasonal increase in the spring and also in the ragweed season. She came from a family in which her parents had been divorced, and she lived with her mother. Her mother

had never remarried, but the father had married again, apparently happily, and had two other children by the second marriage. By hypnoanalysis, after three sessions varying from 30 to 45 minutes in length, she was regressed to her first asthmatic attack at the age of three, which occurred in the home of her father with his new wife and their new baby. In a jealous rage she threw herself on the floor, held her breath, and received such satisfactory attention that this episode, completely forgotten by her conscious mind, was the basis of a great deal of her asthmatic syndrome. When it was explained to her, immediate improvement was noted. After two more sessions for reinforcement of the therapy, she has now been symptom-free for the past four years.

My youngest case was a five-year-old white boy who had a history of allergy starting almost from birth. He was allergic to milk, egg, and vitamins of all kinds but had done well on a limited diet until the age of three, at which time his history of asthma started, which occurred at irregular intervals two to three times a week all the year round with no seasonal exacerbations. Skin testing revealed nothing significant other than various food sensitivities, but even on an elimination diet the child continued with his asthma. He proved to be an excellent subject for hypnosis, entering into a deep state on the second treatment. He was regressed, and he was able to tell of his first asthmatic attack on his third birthday, when his new baby sister came home from the hospital and became the focus of attention for all the family, and he became so upset that he had his first asthmatic attack. In four subsequent sessions the reason for his asthma was explained to him, that he had been jealous of his baby sister because he thought everyone loved her more than him. He was told that of course he knew now that this was not

true, that everyone loved him just as much, so that hereafter he did not need his asthmatic attacks to focus attention on himself. He readily agreed to this and, after a total of six sessions varying from 30 to 45 minutes in length, ceased his asthmatic attacks except for an occasional food indiscretion. He has been symptom-free now for three years.

A third case is a white female, eight years old, with numerous allergies by skin testing to grasses, trees, house dust, mixed bacteria, and ragweed. Vaccine therapy the year round gave poor results, as her asthma continued unrelentingly, and the parents, desperate for help, asked that I try hypnotherapy. After several sessions the child was deep enough in hypnosis for hypnoanalysis to be tried, and she regressed by this method to her fourth birthday, at which time she pictured vividly a fire which she had inadvertently started in her parents' garage, which had burned this structure to the ground. Horror-stricken and remorseful at the holocaust caused by her act, she had never told her parents that she had caused the fire. She did not even recall the fire in her conscious mind, since when brought out of her hyp-

notic state she could not remember having told me of the event. Her asthma started about ten days after this accident occurred, and under hypnosis this was explained to her and reinforced at several sessions. The asthma stopped abruptly, and she has been symptom-free for two and a half years.

These histories, in brief, set the pattern for causative factors found as an emotional or environmental motivating factor in the asthmatic attacks of these 40 cases so far satisfactorily treated by this method. I want to stress again that this is but another form of therapy in our medical armamentarium and that it is not a short-cut cure for asthma, supplementing vaccine therapy. Moreover, never is it to be used simply to suppress the asthmatic attacks without thoroughly explaining the causation of the asthma. The asthmatic syndrome might very well be the visible manifestation of some well hidden deep-rooted psychosis, which if not handled properly could very well cause some much more serious symptom than asthma. Thorough understanding of this fact is vital, and sympathetic and competent handling is necessary.

REFERENCES

1. Elliotson, John. Several articles in *The Zoist*, 1844-1856.
2. Wetterstrand, Otto G. *Der Hypnotismus und seine Anwendungen in der praktischen Medizin*, Vienna and Leipzig, 1891.
3. Bérillon, Edgar. In *Premier congrès international de l'hypnotisme expérimental et thérapeutique*, Comptes rendus. Paris, Doin, 1889. Pp. 157-177.
4. Liébeault, A. A. *Ebauche de psychologie*. Paris, 1873.
5. Balyeat, R. M. The hereditary factor in allergic diseases. *Am. J. med. Sci.*, 1928, 176, 332-345.
6. Piness, G., Miller, H., and Sullivan, E. B. The intelligence rating of the allergic child. *J. Allergy*, 1937, 8, 168-174.

ABSTRACTS OF CURRENT LITERATURE

Edited by Bernard E. Gorton, M.D.

Ingham, J. G. Psychoneurosis and suggestibility. *J. abnorm. soc. Psychol.*, 1955, 51, 600-603.

29 normal individuals and 54 psychoneurotics were given suggestions of horizontal arm movements. The psychoneurotics were found to be significantly more suggestible than the normal individuals so long as tendencies toward spontaneous arm movements were not taken into account. When this last was done, the difference vanished. The author points out that his data do not allow one to decide whether the higher "suggestibility" of the psychoneurotics is spuriously due to their having more extensive spontaneous arm movements or is a true characteristic of psychoneurosis. The author also reports that sedated psychoneurotics are significantly more suggestible than non-sedated psychoneurotics and normals. He again points out that his findings do not permit one to decide whether this is an effect of sedation *per se* or might be the result, perhaps, that the more suggestible psychoneurotics are more likely to receive sedation during the course of therapy. (A.M.W.)

Ingham, J. G. Body-sway suggestibility and neurosis. *J. ment. Science*, 1954, 100, 432-441.

On the basis of a study of 42 normal and 37 psychoneurotic subjects who were examined for degree of static ataxia and responsiveness to postural sway suggestions, this author reports that although static ataxia is significantly higher in psychoneurotics and contributes an appreciable component to the response to postural sway, psychoneurotics still appear to be more suggestible than normals. He agrees his findings are not to be considered as conclusive. (A.M.W.)

Das, J. P. Conditioning and Hypnosis. *J. exper. Psychol.*, 1958, 56, 110-113.

The author studied 63 male students. These were hypnotized and depth of hypnosis ascertained by means of the method of Friedlander and Sarbin. At least 30 minutes after termination of hypnosis the eye-lid reflex was conditioned to a tone and both acquisition and extinction curves obtained. The investigator reports finding a small but statistically significant correlation between hypnosis and conditioning. He concludes that his observation probably indicates a common factor underlying conditioning and hypnosis. (A.M.W.)

Schwartz, B. E., Bickford, R. G., and Rasmussen, W. C. Hypnotic phenomena, including hypnotically activated seizures, studied with the electroencephalogram. *J. nerv. ment. Dis.*, 1955, 122, 564-574.

The authors have made an extensive study of EEG patterns obtained under a large variety of conditions involving hypnosis. Their findings are as follows:

1. Hypnosis and wakefulness have identical EEG patterns, but typical sleep patterns can be brought about in hypnotized individuals by means of appropriate suggestions.

2. 9 out of 11 subjects who hallucinated showed a suppression of alpha waves and in five cases lambda activity was observed. Control subjects imagining scenes showed neither of the above effects. When blindness was suggested both alpha and lambda waves were found absent. The authors feel, however, that there is some ambiguity with respect to the interpretation of the behavior of the lambda waves.

3. 7 out of 10 subjects who had good suggested glove anesthesia showed no changes in their EEG records. The authors conclude that pain is probably still perceived but that it is not appreciated in its emotional aspects.

4. 5 subjects were regressed to the point of showing neonatal reflexes without their EEG becoming altered. 16 cases suffering from organic convulsive disorders who were regressed to the time of their last seizure did not have any convulsions and showed no EEG changes. However, 10 cases of functional convulsive disorders had convulsions when regressed in this manner. They too did not show any changes in EEG. (A.M.W.)

Gale, C., and Herman, M. Hypnosis and the psychotic patient. *Psychiat. Quart.*, 1956, 30, 417-424.

The authors report on their success in hypnotizing organic and functional psychotics. Out of a sample of 50 patients (20 organic, 30 non-organic) 19 (38%) could not be hypnotized, and 31 (62%) attained a light or better trance. The percentage of success was essentially the same for organic and functional psychotics. Only one case attained a deep trance, 7 reached a medium trance, and 23 were lightly hypnotized. They also report some evidence that severe loss of contact is probably a bar to hypnosis. (A.M.W.)

Kohn, H. B. Suggestion relaxation as a technique of inducing hypnosis. *J. Psychol.*, 1955, 40, 203-208.

Two groups of 10 subjects each were tested as follows. One group was asked to participate in an experiment in relaxation, and the other group was invited to take part in an experiment in hypnosis. Both groups received the same instructions, aimed at inducing progressive relaxation, from tape recordings. Both developed some degree of hypnotic suggestibility as established by the LeCron-Bordeaux scale. The hypnotic group showed somewhat higher suggestibility. (A.M.W.)

Atterbury, R. A. Clinical methods of hypnotic induction. *Dental Digest*, February 1957, 2 pages.

The author discusses very briefly the nature of hypnosis, its applications in dentistry, the various degrees of hypnosis obtainable, and various methods of inducing hypnosis. (A.M.W.)

Taugher, V. J. Hypno-anesthesia. *Wisc. Med. J.*, February 1958, 2 pages.

The author reports briefly on three cases in which hypno-anesthesia was used. One was a tonsillectomy, one a curettage case, and one a case of cesarean section. (A.M.W.)

Todorovic, D. D. Hypnosis in military medical practice. *Military Medicine*, August 1958, 121-125.

Various practical aspects in the use of clinical hypnosis are discussed with special attention to contraindications. The author lists 15 types of conditions in which hypnosis can be used in peace-time military medicine. He also considers four main applications of hypnosis in the event of nuclear warfare: relief of pain, surgical anesthesia, in the treatment of burns, and to fight mass hysteria. He concludes his article with five brief case reports dealing with conversion hysteria, pseudo-angina pectoris, intestinal obstruction relieved by surgery, duodenal ulcer, and a case of anorexia associated with extensive burns. (A.M.W.)

Higley, H. E. The treatment of paralysis with hypnosis. *Amer. Osteop. Ass. J.*, 1958, 57, 389-390.

Two cases of aphagia following bulbar poliomyelitis, of 9 and of 5 years duration respectively, were successfully treated with hypnosis by means of a combination of regression and posthypnotic suggestions. A case of spastic paraplegia of five year duration was partially relieved by a similar treatment. The general method of approach consists in regressing the patient to a time prior to the illness and having him fantasy himself in the process of carrying out the acts he is unable to perform satisfactorily. Posthypnotic suggestions of recovery are subsequently given. (A.M.W.)

Kelsey, D., and Barron, J. N. Maintenance of posture by hypnotic suggestion in patient undergoing plastic surgery. *Brit. med. J.*, March 29, 1958, 756-757.

A male, aged 24, had lost tissue from the fore-part of the right foot, which was to be repaired with a pedicle from the abdomen transported via the left forearm. In hypnosis the arm was put in position against the abdomen, and patient was told that at the command "Lock it" the arm would become fixed and would not move until the command "Unlock it" was given. After a second session, he was hypnotized and told that he would maintain this position over night while he slept. He slept well, and the position was maintained successfully. The operation was performed under hypnosis with some local anesthesia, as patient expressed discomfort, the upper end of the pedicle being freed from the abdomen and inserted into the left wrist. The required position was held accurately until the next operation, three weeks later, when the lower end was freed from the abdomen and inserted into the forearm. In due course the pedicle was ready for one end to be freed from the wrist and inserted into the fore-part of the right foot. Before the operation a rehearsal session was held, in which the left hand was placed on the dorsum of the right foot and "locked," patient being told to hold the position during the night's sleep. After the operation, the left forearm was placed on the dorsum of the right foot. Waking and sleeping, patient held this position until, after 28 days, the pedicle was separated from the forearm. Patient could move about with the aid of a crutch, and he "achieved truly astonishing mobility." The authors ask but do not answer the question, Would the suggestions remain effective under a dose of thiopentone or if the patient were to stumble and reflexly try to wrench his hand free? (F.A.P.)

BIOGRAPHICAL NOTES ON CORRESPONDING EDITORS OF THIS JOURNAL

JULIO M. DITTBORN was born in 1917 in Washington, D. C., where his father was in the diplomatic service. He received the degree of M.D. at the University of Chile in 1940. Since then he has studied at the Chilean Institute of Psychoanalysis and has had a training analysis as well as post-graduate training in neurophysiology, psychology, and clinical psychiatry. He is now Assistant Professor of Psychiatry in the School of Medicine of the University of Chile and a Research Fellow of the University's Center for Experimental Psychiatry. While holding a Fulbright Fellowship in 1958 he visited the United States. His memberships include the Chilean Society of Neurology, Psychiatry, and Neurosurgery, of which he was Director in 1955, the Chilean Society of the History of Medicine, and The Society for Clinical and Experimental Hypnosis. Several articles by Dr. Dittborn have appeared in scientific journals in Chile and in this country.

GOSAKU NARUSE was born in 1924. In 1950 he received the degree of B.G.S. (Bungakushi) in psychology at the Tokyo Bunrika University. At this university he was assistant and instructor from 1950 to 1953. He then went to the Tokyo University of Education, at which he was instructor from 1953 to 1958, when he was appointed Chairman of the Psychological Clinic of the latter university. Since 1957 he has been Visiting Lecturer at the Obilin College in Tokyo. He is a member of three Japanese associations (psychology, applied psychology, neurology and psychiatry), an honorary member of The Society for Clinical and Experimental Hypnosis, a member of the executive committee of The Japanese Society of Hypnosis, and editor in chief of The Japanese Journal of Hypnosis. His publications include a book in Japanese on the techniques of hypno-interviewing and twenty articles in The Japanese Journal of Psychology, The Journal of Clinical and Experimental Hypnosis, and The Japanese Journal of Hypnosis.

GALINA SOLOVEY DE MILECHNIN was born in Moscow in 1919. She emigrated with her family to Uruguay in 1924, and in 1935 she graduated from a ten-year course at an English-speaking school, Crandon Institute. In 1944 she received the degree of M.D. in Montevideo, with a prize for high scholarship. In 1948 she won a competition for the position of Assistant to the Chair of Pediatrics, and in 1949 a competition for the position of Chief Physician of the Children's Out-Patient Clinic of the Government Health Department. During this period she worked as a psychiatrist in the Hospital of the Evangelical Society of Mutual Assistance. In 1950 she was admitted as a Fellow to the American Academy of Pediatrics. She obtained her first information about hypnosis in 1950, when she married Anatol Milechnin, an emigrant of the second world war who received his degree in the Soviet Union and has practiced hypnosis since 1941. After four years of intensive work in the field of clinical and experimental hypnosis, she made in 1954 a trip to the United States with the exclusive purpose of obtaining a broader view of the state of contemporary hypnosis. Stimulated by this trip, she began publishing with her husband articles on

hypnosis both in England and in Spanish (nineteen in English, seven in Spanish), and they are the authors of *El hipnotismo de hoy* (Buenos Aires: Ediciones Dyaus, 1957). Dr. Solovey de Milechnin is a member of the British Society of Medical Hypnotists, the Sociedad Argentina de Hipnosis Médica e Hipnoanálisis, and the Sociedad de Hipnodoncia.

BERTHOLD STOKVIS was born in Amsterdam in 1906. After attending the Amsterdam Gymnasium he entered the University of Amsterdam, where he received his degree in 1932. For some time he worked as an assistant in the Psychiatric Institute "Het Apeldoornse Bos," and then he became an assistant in the Neurological Clinic of the University of Leyden. Later he was appointed assistant in the Psychiatric Clinic in the same university, where he worked under the direction of Professor Carp. In 1937 he obtained his M.D. at the University of Leyden with the thesis "Contribution to the knowledge of psychology and psychotherapy of patients suffering from essential hypertension, with the aid of continuous, automatic, and indirect registration of blood pressure." In 1938 he was appointed head of the Medical-Psychological Laboratory of the University Psychiatric Clinic at Leyden and private docent of experimental psychology. During the years 1946-1948 he was a member of the State Committee for the Care of War Orphans in the Netherlands. In 1948 he was appointed docent of psychopathology in the University of Leyden and Conservator of the Leyden University Clinic. Dr. Stokvis has lectured on several occasions to international congresses, e.g. Oxford (1938), Ghent (1938), Zürich (1945 to 1949), Amsterdam (1948, 1949), Paris (1950), Leyden (1951), Jerusalem (1952), Brussels (1954), Vienna (1954), and Utrecht (1955). In 1941 he was awarded the gold medal of the University Psychiatric Clinic for his services to science. He is the Secretary of the Dutch Society of Psychology and of the Dutch Society for Rorschach Research and a corresponding member of the Society of Psychic Hygiene of the University of Basel. He was the Secretary-organizer of the Second International Congress for Orthopedagogics, held in Amsterdam in July 1949, and he is the Honorary General Secretary of the International Society for Orthopedagogics. In 1952 he was invited to edit an international journal in coöperation with Professor Carp, *Acta Psychotherapeutica, Psychosomatica, et Orthopaedagogica*. Also in 1952 he was charged with the daily direction of the Leyden Psychosomatic Center. Dr. Stokvis has published several books and articles in scientific journals. His best known book is *Die Hypnose in der ärztlichen Praxis* (Basel and New York: S. Karger).

APPLICATION OF THE ELECTRODYNAMIC FIELD THEORY IN BIOLOGY, PSYCHIATRY, MEDICINE, AND HYPNOSIS¹

I. GENERAL SURVEY

by Leonard J. Ravitz, M.D.²

There are therefore Agents in Nature
able to make the Particles of Bodies
stick together by very strong Attractions.
And it is the Business of experimental
Philosophy to find them out.

I. NEWTON: Qu. 31, p. 369, in Book III:
*Opticks: or, a treatise of the
reflections, refractions, in-
flections and colours of light*,
4th ed., 1730.

With a certain daring impishness, however, I
venture to remark in paraphrase "The trouble,
dear Brutus, may not be with our stars, but
with ourselves, that we are moving."

H. T. STETSON: Modern evidences for differential
movement of certain points on the
earth's surface. *Tr. N. Y. Acad. Sc.*,
Series II, 6:205, May 1944.

Squinting and groping through the
dim dustbins of tradition in search of
some fixed bulwark, man perceives but
fuzzy fractions of all the forces about
and within him. Gradually, one by
one, his "common sense" assumptions
have been pulled out from under him.
He has recoiled, resisted, and clung in
vain to these comforting artifacts
which underwrite his "firm grip on
reality." When man finally adjusted
to existing on a fourth-rate sphere
which was scarcely the flat center of

creation, then at least his solar system
held sway in the scheme of things.
And when this belief was finally swept
away, it was encouraging to know that
universal matter continued to spin
around his own galaxy. At the time
his geocentric galaxy dissolved into
nothing more spectacular than a per-
ipheral sideshow, man could still take
refuge in his most basic conviction,
that of being a special creation, a spec-
ial "mental substance." After all, Des-
cartes, Malebranche, and especially
John Locke said so; and didn't Freud
give "mental substances" special parts
and forces within the confines of
his closed theoretic system to balance
the cold "mechanisms" of the "mate-
rial" world?

¹ Presented in part at the First Annual
Meeting of The American Society of Clinical
Hypnosis, Chicago, Illinois, 3 October
1958.

² Consulting Director, Training and Re-
search, Eastern State Hospital, Williams-
burg, Virginia.

To be sure, all of the chemical atoms and molecules found in the "physical" world are also found in man—man who is dependent on sources outside himself for his energy supply. Furthermore, Mendel conjured up mechanical little genes; and didn't Darwin say something about evolution? But as a special "mental substance"—a detached spectator—man need not consider such trivia. Doesn't he determine his life by his own "conscious and unconscious motivations," through special laws governing the action of his "mind" on his "body" hinging on complex interactions of "mental mechanisms" and "mental forces"?

Yes, man—that special "mental substance" encased in a "physical body" of high school chemistry anointed with medical school "psycho-dynamics"—man who continues to browbeat nature into conforming with his equally special notions of "good" and "bad", "normal" and "abnormal", "emotional maturity" and "emotional immaturity"—man who is making stellar strides in psychiatry by psychoanalyzing and tranquilizing—man who has finally achieved a "golden age" in medicine, who controls epidemics through base empiricism and wishful thinking.

To primitive cerebration, our position is made infinitely bleaker when one sees man hanging onto a strange celestial rollercoaster, spinning on its axis at 1000 miles per hour, orbiting him around the sun at a clip of 20 miles per second, speeding around the edge of the Milky Way at 170 miles per second, catapulting him and all matter, living and dead, through a multidimensional space-time continuum by an infinite series of undulations piled upon undulations, yet paradoxically making it appear that he is alone and standing still.

Though man has had short innings as a species, he, like other matter, appears to be evolving. The most important gift of evolution is his neo-

cortex, which, eons after it first dawned in reptiles, is finally beginning to fulfill its potentiality, that of increasing his control over his environment.

Through use of his neocortex, man is now probing the secrets of nature, yet without any fundamental understanding of himself and his fellow man. Because of this void, man may shortly blow himself and most of his phylogenetic kin to bits. His behavior, in this sense, should be controlled. But the effective control of behavior in any sense requires reaffirmation of the tautology that one must first understand behavior—understand it in terms of primary forces. Since science cannot deal with special "mental" or "spirit" forces, let us hope that the forces which cause behavior turn out to be natural forces after all—forces amenable to objectification through reproducible, quantitative measurement.

Man's dim sensory apparatus required amplification to gain some comprehension of both macrocosm and microcosm. Might his sensory apparatus similarly require amplification to gain working knowledge of his theoretic component?

Let us momentarily wander backward in time to the late 1940's, where in one room of a laboratory suite a keyed-up young woman is exclaiming, "I feel like +80; and you can't hypnotize me unless I calm down—at least to +65! And I certainly can't be regressed unless my voltage drops to +50 or so!"

A photoelectric recorder is zeroed-in, electrodes are positioned and the recording needle jerks instantaneously to the right of zero, stabilizing with minor oscillations at +78 millivolts. Some renowned professor who thinks that hypnosis is "nothing more than suggestion" watches the procedure intently. In a few moments the needle gradually begins to swing toward zero, reaching a stabilized intensity of +60

millivolts after 15 minutes. Five more minutes elapse before the subject appears considerably more relaxed. At this point hypnosis is induced. The voltage begins to rise precipitously, reaching a level of +72 millivolts in 15 seconds. During induction, the subject's eyelids flutter but remain open. Suddenly she hyperventilates for a brief interval, following which the recording pen again begins to swing toward zero, this time without any oscillations, the tracing now appearing as a straight line. Fourteen minutes later the intensity has dropped to +50 millivolts. When asked whether she is ready for the experimental procedure, the subject replies with a nod.

Is this some episode from science fiction? Can the instruments of field physics automatically monitor depth of hypnosis?

Rather than science fiction, the previous account summarizes one of numerous experiments on human subjects before, during and after hypnosis, demonstrating reproducible electro-metric correlates of hypnotic states. Moreover, since electric changes accompanying hypnosis can be produced through others' suggestions; and as hypnotic states, themselves, often comprise heightened suggestibility in certain respects, the common practice of decrying hypnosis—or for that matter any observable phenomena—as resulting “merely from suggestion” may at last begin to assume a somewhat different configuration. What, then, is the background behind the first elec-

tronic measurements of hypnosis, and what does it mean?

A. ELECTRODYNAMICS IN BIOLOGY

Stimulated by the pacemaking studies of Du Bois-Reymond, Mathews, Ingvar, and Lund, and by the development of field physics from the experiments of Faraday through the mathematical formulations and reformulations of Maxwell, Larmor, Lorentz, and Einstein, Burr and Northrop evolved the *electrodynamic theory of life* in 1935. Since particle physics required supplementation with field concepts in the inorganic universe, it was felt that the same constructs should likewise apply to the biologic domain, where the importance of a relational factor is even more apparent.

As measuring devices prior to 1935 tended to act as current drains, drawing the requisite power from the organism being tested, it was first necessary to develop new vacuum tube instruments which would not disturb the system under observation. In accord with Maxwell's electromagnetic equations, these were designed to measure electric force fields,⁴ pure voltage gradients independent of current flow and resistance changes.

When finally put into operation, what theory predicted, the instruments found: in their theoretic component, living things are electrodynamic systems exhibiting reproducible force field properties continuously in four-dimensional space-time.

Details of innumerable experiments throughout the phylogenetic tree demonstrating the ubiquitous and basic nature of such force field attributes have been published since 1935. Briefly, these exist in all forms of life, exhibit characteristic patterns, can be plotted in the surrounding dielectric or

³ In some enlightened psychologic contributions to a sophisticated explanation of hypnosis, the unfashionably adynamic term, “suggestion”, seems to have been modernized and expanded: e.g., “perceptual-cognitive restructuring,” etc. Such thinking exemplifies the need for sound foundations in basic epistemology as well as in the phylogenetic and ontogenetic evolution of the nervous system and of human nature (cf. Northrop and Herrick).

⁴ A field is a continuum of experimentally verifiable vector forces defined in terms of two parameters, intensity and polarity.

in the air several millimeters from the organism, and are intimately related to biologic processes. For example, through force field measurements ovulation can be detected as well as neoplastic growth. Growth capacity, hybrid vigor, and genetic constitution of plant embryos, fruits, and seeds are predictable, as are the longitudinal axes of animal embryos before their eggs are fertilized. Despite a multitude of complex chemical reactions, the subsequent orientation of embryonic neural axes with those of antecedent force fields indicates a correlation of force field properties with the design of living matter and with its genetic constitution.

B. ELECTRODYNAMICS IN PSYCHIATRY

1. Definition of state

Since 1948, over 30,000 force field measurements have been made on some 430 human subjects in many different states of function at Yale, Duke, and the University of Pennsylvania Schools of Medicine, as well as at the Roanoke and Downey Veterans Administration Hospitals. About 20 per cent of the subjects were measured at least once daily for varying spans of time exceeding 12 months.

Among other findings, variations in feeling and behavior have been correlated with changes in these voltage gradients, and evidence presented that emotional perturbations tend to occur with either high intensity or labile force field patterns.

Utilizing the so-called "double-blind" procedure, statistical evaluation of force field measurements reveal the highest known correlates between any physiologic testing technic and subjective estimates of severity of psychiatric symptoms. Ranging electrometrically in time from states of excitation to states of exhaustion, such force field "profiles" appear to have prognostic

significance transcending observable criteria.

Moreover, after an initial learning period most individuals are able to relate their largely ineffable inner feelings to numeric symbols in terms of what the millivoltmeters indicate. Subjects "guess" their field intensities⁵ and polarities⁶ on closed ballots prior to actual measurement, and many of them acquire phenomenal ability.

2. Prediction of future states

Electric force fields undergo periodic alterations, providing for each organism a variable baseline state in constant flux and reflux—the momentum of living matter in time. Though highly individuated, these electrocyclic patterns conform to a general overall configuration. In human subjects within any 12-month span, the most pronounced electric tides comprise diurnal, fortnightly-monthly, seasonal, and semiannual variations. For example, the highest intensities of plus polarity reach their peak in winter, then gradually decrease, undergoing polar reversals with increasing intensities—this time of minus polarity, most predominant in spring or early summer and autumn. Considerable voltage lability occurs during periods around the vernal and autumnal equinoxes.

Electrocyclic timing appears to be governed by both exogenous and endogenous factors. Primacy of the exogenous component is suggested, however, not only by plotting similar field excursions on diverse representatives of the plant and animal kingdoms

⁵ Absolute or arithmetic magnitude, without respect to sign.

⁶ Predominant algebraic sign of the intensity—plus or minus. Theoretically, polarity indicates the direction of the fields, or axis of rotation or spin. In these studies it always refers to the forehead leads (hot or grid electrode) relative to some other reference point, e.g., anterior chest wall or palm (cold or ground electrode).

within the same time intervals, but also by demonstrating a parallelism between simultaneously recorded earth, atmospheric, and tree potential differences. On inspection, geomagnetic tides likewise seem to correspond to these electric rhythms. Moreover annual variations in the force field patterns of trees have paralleled the sunspot cycle, and evidence has been collected which suggests similar trends in human subjects.

Even prior to mathematical formulation, rough long- and short-range forecasts of symptom exacerbation and remission were made for certain patients, knowing the field intensity, polarity and general rate of change for a given state at a given time in the present, while anticipating specific force field variations at some given future time. In this connection, for the sample month of January 1956, maximum field perturbations of a group comprising both patients and controls have been statistically correlated with subsequent psychiatric hospital admission spikes which lagged behind by 48 hours.⁷

Whatever else, a scientific explanation is at last furnished for certain aspects of age-old myths ascribing various changes in state function to the lunar cycle, with, however, several new twists: viz., the dependency of such changes on individual responsiveness and individual reaction times to individually-timed rhythmic variations, whose intensities, elasticities, and directions are amplified, condensed, accelerated, decelerated, and reversed in accord with periods of other frequencies. Beyond all this frenetic energy flow and ebb, the moon remains silently aloof, being itself propelled into space-time along invisible

tracks of its own course by the same forces operating upon and within living matter.

More pertinently, perhaps, discovery of electrocyclic phenomena in human beings reinforces Erickson's emphasis on the importance of longitudinal case-studies in revealing the ungarbled, rigid, stereotyped automaticity of much behavior masquerading in cross-section as fractionated personality-responses to apparent realities of given situations.

C. ELECTRODYNAMICS IN "PSYCHOSOMATICS," THE MEDICAL AND SURGICAL SPECIALTIES AND GERIATRICS

Somatic complaints show correlates with changes in field properties, which also undergo characteristic alterations with aging. The following outline illustrates a few sample preliminary linkages:

1. *Changes in state function preceded by or associated with force field shifts in a minus direction*

- a. Upper respiratory infections
- b. Peptic ulcers and other gastrointestinal disorders (e.g., diarrheas of varying immediate etiologies)
- c. Allergies (e.g., hayfever and asthma)
- d. Carbuncles and furuncles
- e. Arthritis
- f. Wounds
- g. Nonspecific "psychosomatic" complaints
- h. Peripheral nerve injuries
- i. Cellular growth (i.e., the growing portion)
- j. Aging
- k. Malignancies

2. *Changes in state function preceded by or associated with force field shifts of high intensities, whose polar direction appears to be con-*

⁷ Though 62% of admissions could be attributed to "the variable" of mean force field intensification (Wilpizeski), this does not imply that months having lesser field intensifications would likewise show significant correlations.

ditioned by individuated electrocyclic variables

- a. Migraine and severe headaches
- b. Seizure states
- c. Ovulation

Using head-chest leads, human subjects undergo polar reversals with age—running downhill electrically. This phenomenon has also been noted in trees and mice, which show rising voltage gradients during the first third of life, a leveling off during the middle third, and a decline during the final third. On the few human subjects thus far tested below age 16, minus polarity has been predominant. Typical caucasian males in their late teens and early 20's tend to show moderately high intensities of almost uniformly plus polarity. This may or may not be true of caucasian females of the same age, who tend to go minus at a much younger age than males. By the third decade, most females appear to be minus much of the time; males in their 30's may still tend to show predominant plus polarity. Yet beyond 50 years of age, plus polarity has been found only about 10 per cent of the time in both sexes with, of course, individual exceptions.

On inspection, the most common symptom associated with sustained minus readings is fatigue, especially following sustained voltage intensification in the minus direction. Such sustained high-minus values also tend to be associated with feelings of lassitude and hopelessness and the feeling of being "dragged-out," in addition to numerous somatic complaints. In this regard, it is of interest to note that, unlike typical depressions found in younger age groups which are typically associated with high intensities of either polarity, involuntional depressions have to date been seen only in conjunction with high-minus field configurations.

Aside from exemplifying the non-specific property of force field meas-

urements, these studies highlight the inherent impotence of dualistic "psychosomatic" constructs. "Emotional" and "physical" factors seem indistinguishably and inexorably fused to individuated variable baseline states of given organisms in time, defined in terms of force field parameters. Further, through this new definition of state, not only is light shed on the known periodicities of certain clinical conditions, but also on the profound and protracted psychiatric, surgical, and medical problems frequently arising in the geriatric matrix.

D. ELECTRODYNAMICS IN HYPNOSIS

On April 24, 1948, depth of hypnosis, which had heretofore eluded objective measurement, was electronically monitored for the first time and compared with force field shifts during other states of consciousness. By November 15, 1949, continuous tracings were being photoelectrically recorded in the Section of Neuro-Anatomy, Yale University School of Medicine.

With the recording paper set at a speed of one inch per minute, a pair of reversible, nonpolarizing, silver-silver chloride electrodes resting on saline-soaked pads was strapped to the forehead and palm. After a prehypnotic run averaging from five to ten minutes to insure maximum repose, readily determined by noting changes in the voltage pattern, the subject was hypnotized. Erickson's "naturalistic approach" was utilized, the individuated patterns of response and personal capabilities of each subject serving as cues. By setting up the recording apparatus at various locations, the development of deeper trance states—or for that matter, any changes in state function—can be just as easily monitored at convenient distances.

1. *Electric force field changes before, during, and after hypnosis*

a. *Prehypnotic, waking-state force field tracings show small, characteristic*

minute-to-minute variations. These differ in intensity, rate of change, and polarity from person to person and depending on changes in general state function, within the same individuals at different times. Such changes are, in turn, intimately bound to the varying positions and momentums of subjects in their electrocyclic patterns at given times. Thus, at the peak of his fortnightly period, the apprehensive state of one graduate psychology student was associated with an unstable squiggly force field tracing ranging in intensity from +29 to +41 millivolts. A few weeks later the same subject, now closer to zero and "perfectly relaxed," produced a much more stable tracing, showing contracted variability of reduced intensity: from +6 to +12 millivolts.

b. *Hypnotic induction* is often accompanied by considerable increases in force field intensity, especially in untrained subjects. For example, the 90-second cataleptic induction phase of a graduate student of physics caused a field intensification of 29 millivolts as well as the appearance of slow 15-cycle oscillations. By the end of this period the voltage gradient had begun to decrease, following which the subject's hand soon dropped to his lap, a position which had been established to signify profound dissociation.

c. *The trance state itself*, following induction, is characterized by a voltage decrease relative to that during induction; and the tracing, which had previously shown varying degrees of oscillations, now smooths to that of a straight line. As compared with waking-state patterns, force field tracings after hypnotic induction show less differentiation between individuals or within the same persons at different times.

Though a gradual voltage decrease is usually obtained, gradual increments are sometimes observed in both inten-

sity and polarity, or limited solely to intensity or polarity, e.g.:

(1) *Intensity increasing, polarity going plus*: Where the subject's variable baseline state is shifting in a plus direction from lower intensities of plus polarity, in accord with the diurnal electrocyclic rhythm at that particular time.

(2) *Intensity increasing or eventually increasing, polarity going minus*: Where the variable baseline trend is in a minus direction from low intensities of either polarity. In such an instance, voltage "rise" refers only to the absolute intensity. Thus a shift from +2 to -18 millivolts during hypnosis may be considered either in arithmetic or algebraic terms. Without taking sign into account, the voltage increased from 2 to 18, a shift of 16 millivolts. Algebraically, however, the voltage continued downward, from +2 to zero to -18, a shift of 20 millivolts. To avoid confusion, -18 millivolts is called "high-minus," the "high" or "low" indicating greater or lesser deviations from zero, and the predominant polarity being designated as minus or plus.

(3) *Intensity decreasing, polarity going plus*: Where the variable baseline trend is in a plus direction from relatively high intensities of minus polarity. Here voltage "rise" refers only to the plus polarity shift—at the same time the arithmetic intensity is decreasing toward zero. Since the polarity of head-palm leads is typically plus, this third example is seldom seen.

Since one is obviously dealing with relative values whose intensity and polarity are not only in continual rhythmic flux but also conditioned by the geometry of electrode placements, it follows that the most important characteristic of force field shifts during hypnosis is *change* from the waking state and, especially in untrained

subjects, from the state of induction. These electrometric studies corroborate Erickson's observations that even well-trained subjects usually require about 15 to 20 minutes before attaining sufficiently profound dissociations to permit satisfactory task performance, undistorted by the persistence of usual waking habits and behavior patterns. Hence the induction state must be carefully differentiated from the trance state itself.

d. *Performance and energy mobilization during the trance state itself:* At the sensitivity utilized, speaking and eyes open do not appreciably affect the typical hypnosis record except in subjects who are in a very light trance or who experience concomitant emotional perturbations, the field pattern then reverting to that of the waking state. Bilateral catalepsy of the arms also tends to be associated with minor variations in well-trained subjects. Likewise dreams, hallucinations, and even regressions or revivifications alter the hypnotic tracing minimally unless accompanied by intense affect or changes in energy level. For example, one subject suddenly spoke of feeling a spurt of energy. A 10-millivolt potential rise lasting two minutes accompanied this evanescent change in state. Minimal alterations were recorded with revivifications of past experiences until a 14-millivolt increase heralded an interlude of grief at leaving a good friend, which persisted for 2½ minutes.

Thus aside from exogenous and endogenous determinants of the variable baseline state (electrocyclic phenomena), sudden situational changes in force field patterns are effected by changes in emotional intensity or energy level rather than by any specific procedure or isolated experiential phenomenon. This applies to all states of consciousness, as do field perturbations which accompany itching, scratching, sneezing, coughing, hiccoughing, yawn-

ing, pain, aching, cramps, startle responses, etc.

e. *Termination of hypnosis* usually results in dramatic voltage shifts in a plus direction, after which the record soon reverts to a waking state configuration. The precise time interval during this transition period depends on how quickly or slowly the subject returns to the waking state. For example, at the end of hypnosis, one subject's force field pattern showed an intensification of 42 millivolts in 75 seconds, shifting from +32 to +74 millivolts. However, feeling very drowsy, he tended to doze. Such changes in state correlated with drops in voltage intensity, voltage rises corresponding to increased alertness. Laughter-provoking spontaneous emotive thoughts likewise correlated with increased alertness and with precipitous voltage rises.

Loquaciousness or general excitability can be characterized by consistently irregular voltage patterns of relatively high intensity. Thus at trance termination one subject became excited, acting as though intoxicated, though avoiding gross movements which might interfere with the electronic monitoring of her state. Force field shifts and accompanying oscillations were of sufficient magnitude to jiggle the penwriter off the recording paper, precluding any accurate estimate of degree of change beyond the fact that it exceeded 100 millivolts. High intensity finger potentials and *Mittelschmerz* suggested that she had just begun to ovulate.

It is important to reiterate that, though the posthypnotic record shows waking state voltage characteristics at about the same intensity as in the prehypnotic state, alteration in field intensity is usually seen when trances are prolonged over a period of several hours. This corresponds to the changed position of the subject with respect to his electrocyclic pattern which fre-

quently shows pronounced variations within certain 24-hour spans.

2. *Electric force field changes in hypnosis versus field alterations in other states of consciousness*

a. *Force field records during sleep* cannot be distinguished from those in hypnosis when they decrease in voltage. However, whereas sleep produces marked electroencephalographic changes, electroencephalograms during hypnosis present a waking-state configuration unless hypnosis blends into sleep automatically or as a result of suggestions. Thus sleep effects alterations in both the rapidly alternating EEGs and in the relatively steady-state force field patterns (voltage gradients) as contrasted with hypnosis, which is characterized by shifting force field parameters and preservation of waking EEG rhythms, i.e., while remaining "hypnosis." Of course, since the reports of Franke and Koopman (1938) occasional claims have been made that EEGs sometimes show increased frequencies and amplitudes during hypnosis, also that Fourier analyses may reveal angular curves instead of the sinusoidal waves which tend to accompany the waking state. The point is, however, that even these seemingly uncommon changes are of a very subtle nature, especially when compared with the changing force field picture—suggestive of shifts toward the drowsy end of a continuum.

b. *Sodium amytal narcosis* evokes minimal force field changes unless associated with an augmentation or quelling of perturbations. Even in the presence of disquietudes, voltage shifts of considerable intensity which often accompany trance states are seldom present; and a gradual diminution of drug effects prevents the recording of significant "terminal" voltage excursions. By contrast, sodium amytal, or any of the barbiturates and bromides, produces profound EEG changes.

Similar phenomena can be seen in other living systems. For example, white rats injected intraperitoneally with various central nervous system depressants, including amytal (90 mg./kg.), evidence minimal force field changes in the face of pronounced physiologic disturbances.

Incidentally, with respect to subjects of the same sex, somatotype, and age who disclaim frequent usage of stimulants and depressants, an apparent relationship exists between dosage required for the production of desired experimental effects and individual force field intensities at these particular times.

c. *Other drugs acting primarily on the neocortex*, e.g., certain members of the amphetamine family, caffeine, alcohol, etc., likewise show minimal force field and maximal EEG changes both in human subjects and in white rats.

d. *Anoxia*, whether from carbon dioxide-oxygen or nitrogen-oxygen inhalations, effects marked alterations in both force field and EEG patterns.

e. *Insulin coma* also affects profoundly both EEGs and force fields.

f. *Resistance to hypnosis can be augmented or lowered by barbiturate administration*. For example, a Yale College senior, whose force fields suddenly registered a 20-millivolt increment coinciding with his witnessing, with increasing discomfort, the beginning preparation of a solution of sodium amytal, became facetious and sarcastic after the injection. This change in state corresponded with increased irregularity in his force field tracing. During each of three attempts to hypnotize him, the subject closed his eyes, which he shortly opened to the accompaniment of a snide remark. The persistence of voltage irregularity even with eyes closed corroborated the clinical observation that he was not hypnotized.

On the other hand, a friend of this subject behaved oppositely. Prior to barbiturate administration, only light hypnotic states could be produced, as is evidenced by initial voltage increases followed by decreases and smoothing, which reverted to a waking state configuration at suggestions for deeper trance states. Though sodium amytal failed to change the tracing in any significant way, the subject soon evidenced spatial and temporal disorientation, then suddenly began to speak of spontaneous visual hallucinations he was experiencing. The next attempt at hypnosis was successful. Startle responses evoked by sudden, unexpected hand-clapping produced increments as much as 16 millivolts. Following suggestions calculated to elicit an emotive response during automatic writing, a pad of paper placed under the subject's hand precipitated an immediate voltage rise, which in 1½ minutes had shifted 34 millivolts. By contrast, momentary opening of his eyes was associated with barely discernible force field changes.

3. *Depth of hypnosis*, as measured electrometrically, correlates only with the degree of force field shift relative to waking and induction state patterns, and the amount of smoothing. Any change in hypnotic level can be detected immediately by changes in voltage and in tracing configuration. No relationship exists, therefore, between hypnotic depth and ability to develop amnesia or other phenomena frequently necessary for adequate therapeutic and/or experimental trances. Hence electrometric evidence again substantiates Erickson's careful clinical observations suggesting the naiveté of empirically-derived rating scales of hypnotic "depth," e.g., the Davis-Husband criteria, which posit graduated fixed "depths" depending on elicitation of progressively more "difficult" phenomena. Actually some subjects who are unable to produce any of these phe-

nomena are in deep trances; some who can experience phenomena supposedly found only in "deep" trance states are in light trances; and still others show considerable variation in this regard. Yet the concept of depth, as applied to trance states, is by no means negated, having been merely redefined in terms of the same objective, reproducible, quantitative electrometric criteria which can monitor depth of sleep and waking alertness.

Moreover in reviewing records taken over the past decade, it seems as though those subjects capable of developing the most complex behavior phenomena during hypnosis comprised individuals whose trance states showed neither the greatest nor the least field intensity alterations.

Some subjects prefer rapid induction and termination periods; many like very gradual transition states; and others vary their behavior and preferences at different times. Such individuation has been objectively recorded. Unless associated with a relatively smooth voltage tracing in a given subject at a given time (rare), the waking state fails to produce such a pattern even when sitting with eyes closed.

The possible neural basis of hypnosis and the biologic significance and implications of electric force field measurements will appear in Parts II and III.

Suffice it to say, electrometric monitoring of hypnotic states, divesting hypnosis of its mystic, inexplicable trappings through application of modern field physics, has had a successful 11-year trial run.

SUMMARY

Living matter at last appears to have a definition of state couched in terms of space-time and energy. Through this new definition of state, which encompasses at least four dimensions, it

has been possible to detect a measurable property of *general* state function, including for the first time an objective, reproducible, quantitative metric of hypnotic states.

Variations in hypnotic tracings are effected by changes in energy level rather than by any specific procedure or isolated experiential phenomenon. Though such electrometric monitoring negates empirically-derived rating-scale criteria as indices of hypnotic depth, the concept of depth is still retained, being redefined in terms of relative EMF changes.

Trance states can be distinguished from sleep by the development of characteristic force field shifts with preservation of a waking EEG configuration. Barbiturate narcosis, on the other hand, is associated with minimal force field and maximal EEG alterations.

Through force field measurements, it has also been possible to plot the constantly changing position and momentum of all living matter in time—noting the dependency of changes in state function on individual responsiveness

and individual reaction times to individually-timed rhythmic oscillations which likewise conform to a general overall pattern transcending the plant and animal kingdoms.

Despite all this frenetic energy flux and reflux, certain rhythmically stable parameters have been designated for what constitute perturbations of many different kinds. Aside from the fact that such quantitatively definable ordinates can be treated mathematically, another unavoidable implication concerns a dawning realization that many so-called "controlled" studies on living matter have been something less than "controlled", failing to consider unseen crucial variables—electrocyclic phenomena. Hence a new dimension of integration has been provided by jumping the gap between physics and biology, dispensing with three-dimensional space and linear-dimensional time and slamming the door on those animistic, primitively-enduring conceptual artifacts of special Cartesian mental substances and mental forces which underwrite "dynamically formulated" American psychiatry.

GENERAL REFERENCES TO PARTS I, II, AND III

The following bibliography, arranged in a somewhat desultory fashion, makes no pretense at completeness. It is intended only as a complementary and supplementary reading list, working familiarity with which should prove helpful in understanding the implications of these papers. Though certain references defy circumscribed classifications, no item appears more than once in the following outline:

METHODOLOGIC FOUNDATIONS OF SCIENTIFIC KNOWLEDGE

Cassirer, E. Ch. 2, Mimetic, analogical, and symbolic expression, 1: Language, in *The philosophy of symbolic forms*. New Haven, Yale University Press, 1953. Pp. 186-197.

Dingle, H. Science and modern cosmology. *Science*, 1954, **120**, 513-521.

Northrop, F. S. C. *The logic of the sciences and the humanities*. New York, Macmillan, 1947.

EVOLUTION OF HUMAN NATURE

Herrick, C. J. *The evolution of human nature*. Austin, University of Texas Press, 1956.

Sherrington, C. *Man on his nature*. (2nd ed.) Cambridge, University Press, 1951.

EIOLOGIC RHYTHMICITY

A. General

Brown, F. A., Jr. The rhythmic nature of life. In *Recent advances in invertebrate physiology*. Eugene, University of Oregon Publications, 1957. Pp. 287-304.

Ellis, H. The phenomena of sexual periodicity, 1, 49-109; Sexual periodicity in men, by F. H. Perry-Coste, 1, 218-230; Charts I-XIII, 1, 255-276; The menstrual cycle of sexual impulse, 7, 213-236. In *Studies in the psychology of sex*. Philadelphia, F. A. Davis, 1900 and 1928.

Fox, H. M. *Selene; or, sex and the moon*. London, Kegan Paul, 1928.

Petersen, W. F. *Man, weather, sun*. Springfield, Ill., Thomas, 1947.

B. Clinical

Erickson, M. H. The problem of the definition and the dynamic values of psychiatric concepts. *M. Rec.*, 1938, **147**, 107-109, 185-189.

Gjessing, R. L. Disturbances of somatic function in catatonia with a periodic course, and their compensation. *J. ment. Sc.*, 1938, **84**, 608-621.

Halberg, F., and Howard, R. B. 24 hour periodicity and experimental medicine: examples and interpretations. *Postgrad. Med.*, 1958, **24**, 349-358.

Ravitz, L. J. Comparative clinical and electrocyclic observations on twin brothers concordant as to schizophrenia, with periodic manifestations of folie à deux phenomena. *J. nerv. & ment. Dis.*, 1955, **121**, 72-87.

HYPNOSIS

Cooper, L. F., and Erickson, M. H. *Time distortion in hypnosis: an experimental and clinical investigation*. Baltimore, Williams & Wilkins, 1954; 2nd ed., 1958.

Davis, L. W., and Husband, R. W. A study of hypnotic susceptibility in relation to personality traits. *J. abn. soc. Psychol.*, 1931, **25**, 175-182.

Erickson, E. M. Critical comments on Hibler's presentation of his work on negative after-images of hypnotically induced hallucinated colors. *J. exp. Psychol.*, 1941, **29**, 164-170.

Erickson, M. H. A study of clinical and experimental findings on hypnotic deafness. I. Clinical experimentation and findings. *J. gen. Psychol.*, 1938, **19**, 127-150.

_____. A study of clinical and experimental findings on hypnotic deafness. II. Experimental findings with a conditioned response technique. *J. gen. Psychol.*, 1938, **19**, 151-167.

_____. The induction of color blindness by a technique of hypnotic suggestion. *J. gen. Psychol.*, 1939, **20**, 61-89.

_____. Hypnotic investigation of psychosomatic phenomena: psychosomatic interrelationships studied by experimental hypnosis. *Psychosom. Med.*, 1943, **5**, 51-58.

_____. Experimentally elicited salivary and related responses to hypnotic visual hallucinations confirmed by personality reactions. *Psychosom. Med.*, 1943, **5**, 185-187.

_____. An experimental investigation of the hypnotic subject's apparent ability to become unaware of stimuli. *J. gen. Psychol.*, 1944, **31**, 191-212.

_____. Hypnotic psychotherapy. *M. Clin. N. Am.*, 1948, **32**, 571-583.

_____. The therapy of a psychosomatic headache. *J. clin. exp. Hypnosis*, 1953, **1**, 2-6.

_____. Special techniques of brief hypnotherapy. *J. clin. exp. Hypnosis*, 1954, **2**, 109-129.

- _____. A clinical note on indirect hypnotic therapy. *J. clin. exp. Hypnosis*, 1954, **2**, 171-174.
- _____. Naturalistic techniques of hypnosis. *This JOURNAL*, 1958, **1**, 3-8.
- _____. Pediatric hypnotherapy. *This JOURNAL*, 1958, **1**, 25-29.

RELATIVISTIC ELECTRODYNAMICS

A. Historic foundations (listed in chronologic order with exception of Pattie's paper on Mesmer's plagiarism of Mead's tidal theory)

Newton, I. General scholium, propositions XLII, XXII, end of Book III, The system of the world, esp. par. 54. In *Mathematical principles of natural philosophy*, tr. by F. Cajori, ed. by R. T. Crawford. Berkeley, University of California Press, 1934.

_____. Queries, end of Book III, pp. 313-317. In *Opticks, or a treatise of the reflections, refractions, inflections, and colours of light*, 4th ed. London, William Innys, 1730.

Mérid, R. *De imperio solis ac lunae in corpora humana et morbis inde oriundis*. London, R. Smith, 1704. English tr., *On the power and influence of the sun and moon on human bodies; and of the diseases that rise from thence*. London, Richard Wellington, 1712.

Mesmer, F. A. *Mémoire sur la découverte du magnétisme animal*. Genève, Didot, 1779. Tr. by V. R. Myers, int. by G. Frankau, *Mesmerism, by Dr. Mesmer*. London, MacDonald, 1948.

Pattie, F. A. Mesmer's medical dissertation and its debt to Mead's *De imperio solis ac lunae*. *J. Hist. Med. all. Sc.*, 1956, **11**, 275-278.

Faraday, M. Notice of the character and direction of the electric force of the Gymnotus. In *Experimental researches in electricity*, Vol. 2, 1-17, pars. 1749-1795. London, Quaritch, 1844. 3 vols.

Du Bois-Reymond, E. *Untersuchungen über thierische Elektrizität*. Berlin, G. Reimer, 1848, 1849, & 1860. 3 vols.

Maxwell, J. C. A dynamical theory of the electromagnetic field. Part I. Introductory. In *The scientific papers of James Clerk Maxwell*, vol. 1, 533, par. (16). Cambridge, University Press, 1890.

Stewart, B. Hypothetical views regarding the connexion between the state of the sun and terrestrial magnetism. In article "Meteorology," *Encyclopaedia Britannica*, 9th ed., **16**, 181-184, pars. 115-144. New York, Scribner, 1883.

Mathews, A. P. Electrical polarity in the hydroids. *Am. J. Physiol.*, 1903, **8**, 294-299.

Ingvar, S. Reaction of cells to the galvanic current in tissue cultures. *Proc. Soc. exp. Biol. Med.*, 1920, **17**, 198-199.

Einstein, A. *The meaning of relativity*, 3rd ed., including: *The generalized theory of gravitation*. Princeton, Princeton University Press, 1950.

B. Electrodynamics in biology

Burr, H. S. Field properties of the developing frog's egg. *Proc. nat. Acad. Sc.*, 1941, **27**, 276-281.

_____. Electrical correlates of pure and hybrid strains of sweet corn. *Proc. nat. Acad. Sc.*, 1943, **29**, 163-166.

_____. Variables in DC measurement. *Yale J. Biol. Med.*, 1945, **17**, 465-478.

_____. Tree potentials. *Yale J. Biol. Med.*, 1947, **19**, 311-318.

_____. Field theory in biology. *Scient. Monthly*, 1947, **64**, 217-225.

_____. An electrometric study of cotton seeds. *J. exp. Zool.*, 1950, **113**, 201-210.

_____. Bioelectricity: potential gradients. *Med. Phys.*, **2**, 90-94. Chicago, Year Book Publishers, 1950.

- . Electrometrics of atypical growth. *Yale J. Biol. Med.*, 1952, **25**, 65-75.
- . Certain electrical properties of the slime mold. *J. exp. Zool.*, 1955, **129**, 327-342.
- . Effect of a severe storm on electric properties of a tree and the earth. *Science*, 1956, **124**, 1204-1205.
- , and Mauro, A. Millivoltmeters. *Yale J. Biol. Med.*, 1949, **21**, 249-253.
- , and Mauro, A. Electrostatic fields of the sciatic nerve in the frog. *Yale J. Biol. Med.*, 1949, **21**, 455-462.
- , and Northrop, F. S. C. Evidence for the existence of an electrodynamic field in living organisms. *Proc. Nat. Acad. Sc.*, 1939, **25**, 284-288.
- , and Sinnott, E. W. Electrical correlates of form in cucurbit fruits. *Am. J. Botany*, 1944, **31**, 249-253.
- Lund, E. J. *Bioelectric fields and growth*, with a bibliography of continuous bioelectric currents and bioelectric fields in animals and plants by H. F. Rosene. Austin, University of Texas Press, 1947.
- Marsh, G., and Beams, H. W. The orientation of pollen tubes of *Vinca* in the electric current. *J. cell. comp. Physiol.*, 1945, **25**, 195-204.
- Nelson, O. E., Jr., and Burr, H. S. Growth correlates of electromotive forces in maize seeds. *Proc. nat. Acad. Sc.*, 1946, **32**, 73-84.

C. Clinical Applications of electrodynamics

1. Obstetrics, gynecology, and surgery

- Barton, D. S. Electric correlates of the menstrual cycle in women. *Yale J. Biol. Med.*, 1940, **12**, 335-344.
- . A study of temperature and electric potentials in the menstrual cycle. *Yale J. Biol. Med.*, 1940, **12**, 503-523.
- Burr, H. S., and Musselman, L. K. Bio-electric correlates of the menstrual cycle in women. *Am. J. Ob. Gyn.*, 1938, **35**, 743-751.
- , Taffel, M., and Harvey, S. C. An electrometric study of the healing wound in man. *Yale J. Biol. Med.*, 1940, **12**, 483-485.
- Langman, L., and Burr, H. S. Electrometric timing of human ovulation. *Am. J. Ob. Gyn.*, 1942, **44**, 223-230.
- Langman, L., and Burr, H. S. A technique to aid in the detection of malignancy of the female genital tract. *Am. J. Ob. Gyn.*, 1949, **57**, 274-281.
- Ravitz, L. J. Fenómenos electrocíclicos y estados emocionales. *Arch. Med. Int. y Antib. y Quimiot.*, 1952, **2**, 217-253.
- . Electrocyclic phenomena and emotional states. *J. clin. exp. Psychopath.*, 1952, **13**, 69-106.

2. Neurology

- Grenell, R. G., and Burr, H. S. Surface potentials and peripheral nerve injury: a clinical test. *Yale J. Biol. Med.*, 1946, **18**, 517-525.

3. Altered states of consciousness

- Burr, H. S., and Barton, D. S. Steady-state electrical properties of the human organism during sleep. *Yale J. Biol. Med.*, 1938, **10**, 271-274.
- , and Livingston, R. B. Effect of hypoxia and hypercapnea on standing potential of man. *Federation Proc.*, 1952, **11**, 21.
- , and Smith, P. K. The relationship between the bioelectric potential of rats and certain drugs. *Yale J. Biol. Med.*, 1938, **11**, 137-140.

Grenell, R. G., Moore, B., Burr, H. S., Brown, W., and Friedman, S. Electrical correlates of psychiatric disturbances. *Federation Proc.*, 1948, **7**, 44-45.

King, C. D. Electrometric studies of sleep. *J. gen. Psychol.*, 1946, **35**, 131-159.

Ravitz, L. J. Standing potential correlates of hypnosis and narcosis. *A. M. A. Arch. Neurol. Psychiat.*, 1951, **65**, 413-436.

———. Electrometric correlates of the hypnotic state. *Science*, 1950, **112**, 341-342.

———. DC potential shifts due to carbon dioxide-oxygen administration. Presented at the 14th annual meeting of the Southern Psychiatric Association, 1952. To be published.

4. Longitudinal psychiatric studies

Ravitz, L. J. Daily variations of standing potential differences in human subjects: preliminary report. *Yale J. Biol. Med.*, 1951, **24**, 22-25.

———. The use of DC measurements in psychiatry. *Neuropsychiatry*, 1951, **1**, 3-12.

———. Electrodynamical field theory in psychiatry. *South. M. J.*, 1953, **46**, 650-660.

———. Bioelectric correlates of emotional states. *Conn. State M. J.*, 1952, **16**, 499-505.

———. Correlation between DC voltage gradients and clinical changes in a chronic schizophrenia patient, project M-223 (film). Abstracted in *The Scientific papers of the one hundred and twelfth annual meeting of the American Psychiatric Association in summary form*, no. 28-C-4, May 3 & 5, 1956. Washington, American Psychiatric Association, 1956. Selected frames and discussion to be published in detail.

———, and Cuadra, C. A. Phylogenetic and electrocyclic implications of schizophrenic states. Abstracted in *The scientific papers of the one hundred and twelfth annual meeting of the American Psychiatric Association in summary form*, no. 53, May 3, 1956. Washington, American Psychiatric Association, 1956. Complete text to be published.

———, Wilpizeski, C. R., and Burr, H. S. Periodic and behavior variations in the electric force field properties of certain living systems. To be published.

ALTERNATING FIELDS: ELECTROENCEPHALOGRAPHIC CRITERIA

Barker, W., and Burgwin, S. Brain wave patterns accompanying changes in sleep and wakefulness during hypnosis. *Psychosom. Med.*, 1948, **10**, 317-326.

Brazier, M. A. B., and Finesinger, J. E. Action of barbiturates on the cerebral cortex: electroencephalographic studies. *Arch. Neurol. Psychiat.*, 1945, **53**, 51-58.

Derbyshire, A. J., and Ravitz, L. J. An adjuvant to electroencephalographic analyses. *Neuropsychiatry*, 1958, **4**, 189-192, special insert chart on EEG analyses ff.

Dynes, J. B. An objective method for distinguishing sleep from the hypnotic trance. *Arch. Neurol. Psychiat.*, 1947, **57**, 84-93.

Franke, L. J., and Koopman, L. J. Parallelism in elektrobiologischen Vorgängen der Hirnrinde bei pathopsychologischen und parapsychologischen Erscheinungen. *Ztschr. f. d. ges. Neurol. Psychiat.*, 1938, **162**, 259-288.

Loomis, A. L., Harvey, E. N., and Hobart, G. Brain potentials during hypnosis. *Science*, 1936, **83**, 239-241.

NEUROANATOMIC AND NEUROPHYSIOLOGIC CONSIDERATIONS

Bishop, G. H. The place of cortex in a reticular system. In *Reticular formation of the brain*, International Symposium sponsored by the Henry Ford Hospital, Detroit, Michigan. Boston, Little, Brown, 1958. Pp. 413-421.

Coghill, G. E. Correlated anatomical and physiological studies of the growth of the nervous system of Amphibia. II. The afferent system of the head of *Amblystoma*. *J. comp. Neurol.*, 1916, **26**, 247-340.

Fulton, J. F. *The frontal lobes and human behaviour*. (The Sherrington Lectures, II.) Liverpool, University Press, 1952.

Magoun, H. W. An ascending reticular activating system in the brain stem. *A. M. A. Arch. Neurol. Psychiat.*, 1952, **67**, 145-154.

Penfield, W. Memory mechanisms. *A. M. A. Arch. Neurol. Psychiat.*, 1952, **67**, 178-191; discussion, 191-198.

THE OBSTETRICIAN AND HYPNOSIS

by R. V. August, M.D.¹

This is a report on the use of hypnosis by the author in his private practice. From November 1, 1957, to September 29, 1958, 361 patients were delivered. Hypnosis was used in 295, 80 per cent, of the cases. It was successful when used alone in 94 per cent of these cases, and it failed to provide total adequate anesthesia in six per cent of the cases (18 of the 295). No attempt will be made here to review the literature. Only our philosophy and methodology will be presented.

Our obstetrical patient, when first seen, relates her complete medical history to my secretary. I review her history and do a pelvic examination to confirm the diagnosis of pregnancy. Following this, we first review and then advise on the care of any special noxious problems, such as hyperemesis. Then we give her a booklet on obstetrical care and a prescription for prenatal capsules. A complete physical examination, including pelvic mensuration, blood, and urine analysis, is done at her second visit. At this time she is advised on the frequency of subsequent visits, which will occur at monthly intervals until the eighth month, when she will be seen twice, and the ninth month, when she will be seen weekly. At this time we also discuss the various analgesics and anesthetics. We permit our patient to make her own choice of sedation to be used. We promise to adhere to her decision, barring any possible medical contraindication.

We will now concern ourselves with the patient who selects hypnosis. Our

next visit consists of one to two hours spent with her, seven other similar patients, and their husbands. At this time we advise our patients that the primary purpose of good obstetrics is a normal healthy mother and a normal healthy baby, and that the second purpose of our care is a maximum of comfort for the mother and a minimum of sedation for the infant. Next we teach our audience the fundamental facts about hypnosis and then proceed to induce hypnosis in the women. Finally, we encourage discussion in a question and answer period. Subsequent routine obstetric checkups are combined with practice hypnosis in groups of six to eight. Husbands no longer attend, as they are invited only to the first class.

We utilize varying methods of trance induction, deepening techniques, and maintenance of hypnosis. We use the permissive, authoritarian and/or the cooperative approach as indicated.

Our patients were hypnotized for delivery in one of the following manners.

1. Post hypnotic suggestions. The patient achieved a satisfactory trance state in my office. She retained suggestions of well being when she was admitted weeks later to the hospital. These sufficed for a comfortable labor and delivery.
2. Emphasis on relaxation or sleep. She was taught to relax and simulate sleep on repeated occasions. She was requested to do likewise after labor began.
3. Rehearsal for delivery with an explanation leading to an understanding of contractions without discomfort. The physiology of labor and delivery were explained to her before and during the trance. While still in the

¹72 East Broadway, Muskegon Heights, Michigan. This paper was presented at the First Annual Meeting of The American Society of Clinical Hypnosis, October 1958.

trance, she was advised to welcome the physiological phenomena of labor and to look forward to each contraction because "each contraction brings your baby closer to you." She was told that the contractions would continue stronger and stronger and would appear closer and closer, but that they would seem to be lighter and lighter and that she would be resting longer and longer between contractions.

4. Production of limited area anesthesia in the "birth canal" region. Skin anesthesia was first obtained on the upraised arm with the patient in the trance. This was repeated at each visit. Each time the patient was told more positively that this same anesthesia would be induced in the "birth canal" region, and that the arm was used only for the sake of convenience of demonstration.

5. Production of a dissociated personality and a dichotomy between mind and pelvis. This patient cooperated both physically and verbally. She spoke almost continuously, advising herself (by name) to cooperate with me. I added infrequent suggestions in order not to interrupt her.

6. "On the spot" hypnosis with either simple limitation of the field of attention or separation of her body into tense and relaxed areas.

Over ten per cent of the women we delivered were other physicians' patients, whom we had never met before. We termed six per cent of our hypnosis attempts failures because these patients required additional anesthetic agents, such as local or general medications. This includes all operative deliveries.

Obstetric sedation, when it involves hypnosis, must conform with the patient's desire and with her capacity for accepting suggestions. The grown-up "spoiled child" who accepted the hypnotic trance in my office time after time was a most dramatic failure when

she went into labor and demanded deep ether anesthesia long before complete dilatation. She got it. The girl whose divorce was pending, the girl whose father died recently, the girl with the unwanted child were all poor subjects for hypnosis. We have been sufficiently fortunate to be spared patients of extremely subnormal mentality. We believe that hypnosis in the aforementioned patients is just as unwarranted as ether anesthesia or saddle block or any other single form of sedation would be for routine use in every patient. Fortunately, hypnosis is ineffective or at best most difficult where contraindicated. Unfortunately this is not true of other anesthetic agents in obstetrical use.

The patients we have delivered with the aid of hypnosis fall into three categories.

1. Most of them have had an indoctrination class plus three to twelve practice classes in groups of four to thirteen. We have found six to eight in a group to be the most satisfactory number. We have experimented with commercially available records and with a tape recording of my voice obtained at a previously satisfactory session with another group. The record and tape have been discontinued as being unsatisfactory in our hands.

2. A few patients have had indoctrination with the group and subsequent private classes by their own request. The reasons have been hearing difficulty, psychologic problems, and choice by the patient.

3. A number of patients have been hypnotized into a satisfactory trance while in labor and even while on the delivery table without any previous preparation.

Most of our hypnosis patients require no medication. However, we feel free to use whatever additional therapy is indicated or desired by the patient. We have no compunctions about

using demerol parenterally, barbiturates orally, or novocaine by hypo or as a block. We frequently suggest demerol or barbiturates to the patient in prolonged labor. We sincerely believe that determination of analgesia should be made by the patient and controlled by the obstetrician within the bounds of good obstetric care. We further believe that the patient should be permitted free choice whenever possible.

Obstetric hypnosis may be indicated or contraindicated, effective or ineffective, in different patients and in the same patient on different occasions. Some of the controlling factors we have encountered are as follows.

1. Parity. Primiparae are the best subjects. Some multiparae have the habit pattern of labor pains so deeply ingrained that only age regression together with prolonged psychotherapy will prevail.

2. Infant problems. Prematurity is a contraindication to inhalation anesthesia and systemic sedation. Hypnosis alone and/or local or block anesthesia are indicated. Malposition and increased size leading to dystocia are indications for oral and/or parenteral medication in support of hypnotherapy.

3. Maternal anatomic factors, if leading to dystocia, are an indication for supportive medication. These factors may prevent caudal or saddle block, thus being an additional indication for hypnotherapy.

4. Need for surgical interference, such as episiotomy, forceps applications, Dürhssen's incisions, or section usually add to the indications for hypnosis. We have found cesarean section under hypnosis to be a thrilling experience for the patient as well as for us.

5. Labor. Over all duration, when the patient arrives in the hospital, when she requests or requires assist-

ance, whether she is ready to deliver at the doctor's convenience, while he is out on a call, or during office hours, are all controlling factors for the obstetrician in solo practice.

6. Maternal organic difficulties. A deaf-mute can not be handled in the same way as the average patient.

7. Last meal. The time when it was ingested may be a contraindication to inhalation anesthesia.

8. Intelligence of the patient. This should be adequate, as it usually is, but the patient must not be too critical.

9. Socio-economic status. The time involved in training is not warranted in some patients for the doctor in private practice. Some patients of low socio-economic status, however, have presented us with the most gratifying results with "on the spot" hypnosis.

10. Extraneous psychologic factors. A neighbor's dubious warning, the husband's fear, the patient in the adjacent bed complaining, inadvertent remarks by a passing doctor or nurse have on occasion interfered sorely with hypnosis in women who were previously excellent hypnotic subjects.

11. Previous failure in another's hands has added to the difficulty in some trance inductions.

12. The doctor's reputation may precede him and lead the patient into a deep trance with little or no suggestion. One Sunday afternoon we were asked to see a patient six days post partum who had been bleeding so steadily that five units of blood by transfusion had failed to raise her blood count to a satisfactory level. Her physician asked me to see and treat her, surgically if necessary, in his absence and without the opportunity of introducing me to her. I first met this lady in the operating room, asked her to count aloud backward from 100, and proceeded to do a thorough pelvic examination, severed the sutures of a wide episiotomy repair, removed a large thrombus, and

ligated a number of bleeding points with deeply placed transfixing sutures. After 40 minutes of operating time I noticed she was in deep hypnosis, tested her, and found this to be so. Subsequently I asked her what she did and why. She stated that she had counted down to zero, began over with 100, and went into hypnosis. This was her first experience with the trance. She stated that she did this because she had heard my nine-year-old daughter, who plays with her neighbor's child, state on many occasions that "Daddy always uses hypnosis on his patients."

13. The patient's psychologic outlook at the time of labor may vary markedly from what it has been at any other time.

14. One of our present projects consists of more accurate prediction of a patient's hypnotic response when subjected to the period of stress, labor, or section. In a very small number we have wrongly prejudged both the very good and the very poor subject.

15. The doctor's training, experience, and particularly his mental attitude are most important to the ade-

quacy of results obtained. Of this we are certain.

A quarter century ago, in medical school, we were taught that obstetrical care involves consideration of "the three P's," powers, passage, passenger. We have since learned to adapt our medical care to our patient's mind as well as her pelvis. We are convinced that incentive, like love, can conquer all. We believe that obstetric analgesia and anesthesia must be adequate for the mother, minimal for the unborn infant. We believe that it must be suitable to the mother and fit into her psychological framework of desirability. Finally, we believe that administration of satisfactory sedation must lie within the capability of the obstetrician, particularly in the absence of an adequately trained resident anesthesiology staff.

We believe that the decreased anesthetic hazard to mother and newborn as well as the greater rapport established between patient and physician well merits the additional time required for the use of hypnosis in obstetrics.

A SURVEY OF THE MANAGEMENT OF CHILDREN IN HYPNODONTIA

by S. Irwin Shaw, D.M.D., M.Ed.¹

When we consider the psychoanalytic theory of hypnosis, the theory that the individual responds to induction because of an unconscious desire to regress to a period of dependency on the parental figure, we might assume that every subject is a child, and in so doing our approach to each patient, regardless of age, will be one of simplicity and assurance in order to establish within the patient a feeling of security, in the first step towards developing rapport.

In dealing with a young child it is easy to gain his confidence, because he has already learned to respect the marvelous powers of his parents (mother very quickly kisses away any hurt) and with his vivid imagination he likens all pleasant and agreeable adults to his own parents, so that with the correct attitude of warmth and friendliness we too so to speak, can kiss away the child's hurt (7).

The mind set, or state of readiness for acceptance of hypnosis, is obtained in a similar manner to that of the adult, and the child must be shown that the operator is definitely interested in his patient's welfare (6). Nowadays, with preventive medicine and patient education, parents are taking their children to the physician and dentist at a very early age, and every child patient should be presumed to have had possibly a traumatic experience at the hands of some other practitioner prior to his appearance in our own office. In this way we are able to treat every child with the genuine effort aimed at

winning the patient's goodwill, and he gets the feeling that here is a doctor who certainly is genuinely interested in him.

The child specialist knows the value of making the young patient feel that he is being catered to as an individual in his own right, and he provides special furniture in his reception room suitable to the child, with various items, including toys and magazines designed to make the child feel at home and comfortable, almost as if he were within the security of his own home environment.

Also the pleasant disposition of the office assistant and her warm understanding of children make an easier transference from this agreeable reception room to the examination room or operatory, where the favorable state of expectancy must be fully established if we are going to succeed with the induction of hypnosis.

The pedodontist attempts to overcome the negative effects of his operating room by using smaller equipment sized to the proportions of the child patient, with perhaps a doll house or castle for his instrument cabinet. Modern pediatricians furnish their examination and treatment rooms according to themes of particular interest to the child, such as the circus and clowns for one theme, a nautical setting and the seaside for another, and a ranch setting with a cowboy theme, etc., all for the purpose of activating the imagination of the young patient towards making feel more secure in what otherwise would be a strange new forbidding environment, and many dentists too are now catering to the child patient in similar fashion.

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In addressing the child, to win his confidence we should keep in mind three things, (1) that it is essential to speak truthfully and on a level the child understands, (2) that a child likes to be complimented every bit as much as an adult, if not more so, and (3) that the natural curiosity and vivid imagination of the child lend themselves to acceptance of hypnosis and should be encouraged by the operator. In line with these factors, the child patient is introduced to the various pieces of office equipment in order to satisfy his curiosity, and for his benefit familiar or understandable terms are employed in this introduction. The dental chair becomes an 'elevator,' the bowl a 'sink,' and the syringes 'pistols.'

To satisfy his need to be appreciated, the child should be greeted with a compliment, and the operator should make a quick survey of the child to observe his appearance, clothes, hair, stature, or any other outstanding characteristics about the patient, so that the compliment is genuine. It must be genuine for the young patient to accept, otherwise we might lose face, and the child could become suspicious of us. Where the operator is at a loss for a genuine compliment, he can resort to asking how old the child is, and then use the answer as a means for complimenting the patient. If the child patient is well-built and large for the age given, we can say so, adding that we bet he'll be every bit as big as his father when he gets to be *fully grown*. We avoid saying 'when he gets to be a man' (or 'grown woman') because we want to give the impression that in his imagination he can be just as big a man as his father, here and now, in the office.

Secter (5) goes further in building up the child's ego by saying, "If I had to guess your age, I'd say you were at least . . . , " and he adds a year and a half to the figure just given by the child. In doing this he makes the pa-

tient feel grown up. The half year is added in case the child is very close to his next birthday, and if this should be so, the addition of merely one year would have less effect on the child. To play safe Secter makes it one and a half years greater.

Following the initial compliment, the child is introduced to the equipment and allowed to see how it operates. He is next allowed to manipulate for himself the operation of the 'elevator,' the faucets for water in the 'sink,' and a brief use of both the air and water 'pistols,' so that in his imagination he can raise himself to the level of the operator and get closer to the necessary rapport. The patient is then invited to give his mother, or whoever is with him, a ride in the 'elevator,' after which he himself is ready for his ride. When in the dental chair and satisfied with going up and down once or twice, the child is then raised to a face-to-face level preparatory to becoming acquainted with the instruments to be used within the mouth.

In an attempt to simplify dental procedures in the eyes of the young patient and at the same time familiarize him with the oral cavity, some operators allow the child to look into the dentist's mouth, letting him handle the mouth mirror, and perhaps let the child squirt water or use the air syringe in the mouth, after which the dentist claims, "Now it's my turn," and he applies the mouth mirror and syringes to the patient's mouth with instructions to spit into the 'sink' when there is need for it. To acquaint the child with the dental drill and its action with the therm-ex water and air spray, a rubber polishing cup is used, and the revolving 'washing machine' is first applied to the operator's finger nails for the child to see and also hear the dentist say, "Gee! It tickles!" Then it becomes the child's turn to try it. It is suggested to the young patient, "See how it tickles. It gets to feel cold too.

Now let's try it in your mouth, and then you can spit out into the sink all by yourself."

This game of 'now it's my turn, now it's your turn' prepares the child and gets him into the mood for the pretend-game which may be next introduced when hypnosis is contemplated.

Whenever it is planned to use hypnosis with a minor it is sometimes advisable to obtain permission from the child's parent, even though hypnosis today is regarded as proper usage in dentistry, and each operator can request this permission according to his own manner of approach. He can inform the parent that most children make good subjects for complete relaxation in the dental chair by use of a psychological method for handling the patient. He can speak directly and state that he uses hypnosis with child patients who find dental work difficult to accept by ordinary methods of application, or, he can use the term 'psychosomatic sleep' and refrain from mentioning the word 'hypnosis.' However, with today's acceptance of hypnosis, there is little need to avoid using the correct term, and the parent can be told of the many advantages to the patient when the induction of hypnosis is agreeable.

Where a child has a strong need for the support of its mother the question arises as to whether it is advisable to have the parent present during the induction of hypnosis. No hard and fast rule can be applied. Some authorities believe that the presence of an understanding parent is helpful at a first induction, provided there are no remarks made by the parent during the period of hypnosis.

As a rule the child patient is more cooperative in the presence of the father, either through fear of being disciplined if he does not behave, or to win affection and esteem by showing he can behave like a grown-up. Of course the over-possessive father can be just

as bad an influence as the over-solicitous mother, and these parents are best returned to the reception room after the child has become familiar with the instruments and procedures already demonstrated to him.

Some dentists avoid all interference from oversolicitous parents by not allowing them into the operating room at any time, and the explanation is given that the demanding child will always take advantage of a mother's presence and will not follow the instructions necessary for good dentistry. The hypnodontist who adopts this approach must abide by it once he has declared himself before the patient, because if assent is given to the mother's demands, the child can recognize the possibility of his winning his own way even as his mother did, and his behavior in the chair might become uncoöperative.

When the parent insists on accompanying the child into the operatory, it is your privilege to be adamant, and you can refuse to accept the child as a patient under those conditions. An alternative approach would be to offer a compromise by explaining that you have no objection to their presence during the critical period of the child's introduction to the strange environment of the dental office, but that as soon as this is accomplished it would be desirable for the parent to leave the room and allow the child to accept the dental procedures on his own.

Some mothers are agreeable to this approach, but there are others who wish to watch your method of applying hypnosis, and this affords a good opportunity to suggest that the mother herself occupy the dental chair first, in order to show the child how to obtain the relaxation that goes with induction. The child who watches his mother respond to the suggestions for hypnosis will be in a better position to accept and follow her pattern. Even if the mother does not respond complete-

ly, the pattern of seeming response is helpful in getting full cooperation from the imaginative child patient.

Before going into the methods of hypnosis induction for the young patient, we might consider the difficult child who screams in an effort to gain control over the situation so disturbing to him in the dental office, and whose parents are fully cooperative.

The approach to this type of child patient is similar to the method some understanding parents use at home with their own children. When their offspring first knowingly tries to gain his ends by screaming, these particular parents may startle him by promptly repeating his behavior, and then while the child is catching his breath in surprise, it is suggested that they play turns at yelling to see who can make the most noise. After a very short while the child occupied in this form of play forgets his immediate want and is ready to turn to other things. In this way the child learns to drop the use of screaming as a method of asserting himself.

Erickson (1) recommends this same procedure for some screaming resistant patients, but carries it further. After the parents leave the screaming child alone with the dentist, Erickson suggests the possibility of taking turns in yelling with the child, and at the same time he maneuvers him into different parts of the room with the explanation that he can yell anywhere he wants. After yelling in two or three places the child is told that he can even scream in a chair, and he is invited to try it as part of the game. In a comparable fashion, when the young patient finds that no one will restrict his yelling in the dental chair, he realizes that no one is attempting to control him. The operator is now ready to continue with the next step in winning over this unruly patient.

The child is next told that screaming or yelling hurts the throat and that he

is big enough to understand talking instead. He is then told, "Your parents want certain things done for you, but I don't have to do what they want right now, and we can talk about anything you'd like, dolls, guns, kites, trains, the circus, or anything you really like."

After such talk has sufficiently calmed the patient he is next told, "You know, this chair can be lots of fun. You can do lots of things in this chair. Besides riding up and down like an elevator, or talking, or yelling, you can shut your mouth real tight or open it very widely, or you can close your eyes real tight so they'll stay closed. Yes, you can do lots of things in this chair. Try it and see how well you can close your mouth . . . Very good. Now close your eyes so they'll get heavy, and you will learn to feel loose and tired all over." At this stage the child has already partially responded and has accepted hypnosis when he closes his eyes, and all that remains is the application of deepening techniques.

The detail of "talking about anything you like" should be applied with every child patient in an effort to find out what games are liked, what toys are most interesting to him, what stories he knows and which he likes best, what television programs are his favorites, and also, if old enough, what he knows about dentistry. This last topic can help the dentist dispel any misinformation picked up elsewhere, and where the child has no knowledge whatever pertaining to dental procedures the dentist can supply limited information in simple language on a level understandable to the child, so that there can be positive acceptance of the work to be done.

The information supplied by the child regarding the things he likes best might be used by the operator to guide the patient into accepting the particular induction technique chosen as most

suitable for the child. If a story is used, it must conform with what is in the child's mind. If a television program is referred to, the operator must be familiar with all the characters involved in that particular program, otherwise the child may lose confidence and the rapport may be broken. There has to be uncritical acceptance of the operator at all times (3).

The storytelling method of induction is applied to small children who have sufficient intelligence to follow what is told. Erickson (2) tells of obtaining a sleep response in an intelligent two-year-old by making use of the infant's attachment to its toy stuffed rabbit. Instead of telling a story about the rabbit getting tired and sleepy, he pointedly asked the child if her "wabbit" knew how to go to sleep, and then suggested that she show him how it lies down and puts its arms down by its sides, how it closes its eyes, and goes to sleep, ending with, "Show me how you do it yourself," the entire procedure being on a challenging basis.

Most children will respond to stories related to their favorite doll, stuffed animal, or any other toy capable of becoming tired or sleepy. The child, already shown how to produce limpness by tightening the hands and letting go, is told that his doggie has been out playing very hard, and that it is very tired, so awfully tired that it can't keep its eyes open. After repeating this to get the child's imagination working, we say authoritatively, "Watch the doggie! See how tired he is! See how he wants to close his eyes because he's so tired! You are tired and sleepy too! You can hardly keep *your* eyes open, just like the doggie! You are so tired and so-o sleepy, you are going right to sleep just like the doggie!" With constant repetition the imaginative child accepts the suggestions.

In similar fashion the limpness of a rag doll, the tired pony after a hard day's riding, etc., all lend themselves,

in the young child's imagination, to an acceptance of the story, and the evocation of the limp and loose sleep state of hypnosis suggested by the operator.

The child of seven or eight appears to be the most susceptible according to Weitzenhoffer (8), and around this age the young patient is quite ready to play the "sleep game" after his introduction to the dental equipment and when he has become familiar with the various dental instruments to be used. At this time we ask the patient if there is anything else he'd like to know, and when he says "No," we tell him that now it's time to learn the "sleep game." For that he must close his eyes and keep them closed tightly all the time while playing the game of pretended sleep. The value of this pretended sleep can be explained to the child by reminding him that at times while playing at home he has bumped himself without feeling the hurt, and did not even remember when his mother asked him where he got the bruise or blue mark on his leg or arm. This was possible, we tell the child, because he was having so much fun playing his game, and that now he can have just as much fun playing the "sleep game" where he can see a T.V. program, or a movie, or the circus, or even a colored cartoon if he wishes. We add that all the time he is in the dental chair he can play this game and enjoy the fun so much that there can be no hurt, and that he will only remember the good time he had.

With that, the patient is told to close his eyes and pretend to see whatever will give him the most fun. Next we ask him to tell us what he's looking at, so that our suggestions can include remarks about Felix, Mickey Mouse, the Lone Ranger, or whatever character might be of interest. We tell the patient that, as the picture gets clearer, his right hand will begin to feel very light, almost as if a string were tied to the wrist pulling it upward towards

his face, and that as the hand rises, the picture gets even clearer so that the hand keeps getting lighter and keeps moving up closer and closer to the face.

With the hand already moving we include the suggestion, "When your hand touches the face you will go into a deep, deep sleep, in which you will continue to see your program and hear music along with it. When this happens your hand will become very heavy and it will fall like a heavy stone back into your lap." When the hand falls into the patient's lap an adequate trance response has been obtained.

For most dental requirements this response is sufficient, but when so desired it can be deepened by any of the deepening techniques. Merely suggesting that the child tap with the first finger of his left hand in keeping with the music he hears will deepen the trance if the patient is told that each tap will have this effect.

The next step is to suggest analgesia or anesthesia, using terms understandable to the child such as, a funny numb feeling, or frozen like ice, no feeling, just like a piece of wood, or a combination of such terms to suggest that there is no feeling of pain. This can be accomplished by direct suggestion of numbness, as if the hand or jaw had been packed in ice for an hour or so, or by suggesting to the child that he imagine a row of colored switches in the back of his head, just like the electric switches on the wall for shutting off the light. When he sees these switches he is told to pick out the red one which shuts off all hurt to the right hand. He is then asked to develop the numbness with all hurt feeling gone from the right hand by shutting off this red switch. The child can be asked to nod his head, or raise a finger of the left hand, when the anesthesia (numbness) is established.

In testing this response it is well to test the left hand first, saying, "This

hand is sensitive, so you'll feel a tiny hurt, but the frozen hand can only feel the pushing because there's no hurt in it at all." In testing the right hand we add, "See! There's no hurt at all. The more you feel the *pushing* the further away the hurt goes. The hurt is all shut off now."

With this satisfactory experience the child is given the opportunity to pick out the orange switch to the mouth for the right side, or the purple one for the left side of the mouth, and he can shut these off for a similar anesthesia within the mouth and teeth. It might be advisable at times to let the patient visualize and designate his own colors for these particular switches.

Some dentists merely transfer the anesthesia already established in the right hand to that part of the patient's mouth requiring dental work, by having the child touch that side of his face with the "frozen" hand. The child is told, "You can shut off all feeling in your jaw and tooth by touching this side of your face with your frozen right hand, and pushing real hard will make the tooth feel frozen and like a piece of wood. You know there's no hurt in a piece of wood, so go ahead and shut off all feeling to your teeth. Push hard against your face and drop your hand when all the hurt is taken out of these teeth." When the hand is dropped, or when the child has signaled anesthesia by the switch method, test on the sensitive side as with the hands. When no hurt is experienced on the anesthetized gum area, press hard on the tooth to be worked on and say, "You can feel me press on the tooth or shake it like this, but there's no hurt at all, in fact the harder I push the number the tooth gets, and it will stay frozen like this all the time you are here in the dental chair." Some authorities recommend substituting other words in place of "hurt" or "pain" because of their possible disturbing effect on the child. Marcus

(4) prefers to say, "Whatever you feel, you will not mind at all. You simply won't care, and it will not bother you." Dentists using hypnosis with children have been successful with either approach, and the choice of words is left to the discretion of the operator.

With anesthesia established the child patient is ready for operative dentistry or the injection of chemical anesthetic. While this additional anesthesia may be unnecessary, many operators feel that the combination of hypnosis and chemical anesthesia is superior to the use of either method alone, and the child eventually learns to accept the injection without requiring an induction of hypnosis.

The steps for maintaining relaxation during the period of operative dentistry are similar to that in adult practice, and the child is given suggestions for acceptance of all extraneous noises. Posthypnotic suggestions for protection against acceptance of hypnosis for entertainment purposes, for future response when seated in the dental chair, for postoperative well-being, etc., are all exactly the same as those given to the adult dental patient except that they are presented in simple understandable language with added explanations wherever possible, in order to strengthen motivation in the child.

It should be remembered that other techniques for induction of hypnosis can also be applied to the child patient.

Eye fixation methods, the metronome combining sound with light, counting or reciting the alphabet for the child old enough to count, etc., are all suitable methods depending on the mental age of the child. Actually it is possible to use any technique that the child is capable of understanding, and we should keep in mind that the young patient is as much an individual personality as is the adult, and should be given sincere sympathetic consideration at all times.

In realizing that the child can be burdened with problems that are imaginary as well as those that may be real (6), we can pay attention to his sensitivity with a genuine, considerate approach, and by treating him with a calm, deliberate, and truly dependable manner we are able to gain his full confidence, and thereby develop an unreserved acceptance of our suggestions, with a well-established rapport. This acceptance of the dentist and hypnodontia tends to be retained and further strengthened at each successive appointment, so that in many cases the formerly apprehensive child patient actually asks to discontinue the "sleep game" or the "pretend game" because he is ready to accept dentistry and wants to see what is going on while he is in the dental chair. When this happens we know that the management of this particular child in hypnodontia has been decidedly successful.

REFERENCES

1. Erickson, Milton H. Hypnosis and the child patient. Medical-Dental Seminar, Chicago, 1958.
2. ———. Pediatric hypnotherapy. *This JOURNAL*, 1958, 1, 25-29.
3. Heron, W. T. *Clinical applications of suggestion and hypnosis*. Springfield, Ill., Thomas, 1950.
4. Marcus, Howard W. Dental applications in hypnosis. In M. K. Bowers (Ed.), *Introductory lectures in medical hypnosis*. New York, Institute for Research in Hypnosis, 1958.
5. Sexter, Irving I. Hypnosis for the dentist. Midwinter Dental Meeting, Chicago, 1958.

6. Shaw, S. Irwin. *Clinical applications of hypnosis in dentistry*. Philadelphia, W. B. Saunders, 1958.
7. ———. Psychosomatic sleep applied to dentistry. *J. Dent. for Children*, 1951, **18**, 10-14.
8. Weitzenhoffer, A. M. *Hypnotism: an objective study in suggestibility*. New York, Wiley, 1953.

TREATMENT OF ALLERGY BY SUGGESTION: AN EXPERIMENT

by E. E. Aston, D.D.S.¹

(Editor's note: This clinical note is published for several reasons. First of all, it demonstrates clearly how a symptom-complex may persist long after the personality needs that engendered it have passed, and how it may continue indefinitely to dominate seriously the daily life of the patient. Next, it illustrates the remarkable ease, simplicity, and effectiveness, as judged by actual results and their duration, with which the use of hypnosis can sometimes correct a long-established distressing handicap to the personality. Finally, it discloses that problems in psychotherapy need not always be intricate, involved, and time-consuming. Instead, it is sometimes possible, using hypnosis, to correct a symptomatic manifestation of major proportions in the patient's everyday functioning by a brief, simple, forthright, unassuming approach. The fact that neither participant in this successful experimental psychotherapy was medically qualified is not actually a pertinent issue. Two people, professionally trained and in a combined medical-dental teaching situation, posed and answered a scientific question.)

Both patient and writer are dentists. The writer is one of the patient's instructors in hypnosis. When it was discovered, during a teaching situation in 1956, that the patient avoided many foods because of allergic manifestations, the patient and the writer agreed to conduct an experiment in therapeutic hypnotic suggestion.

The patient, a young woman, reported that at about the age of six she had suffered from hay fever, but her symptoms were mild and controlled by Benadryl. At the age of thirteen, however, severe allergic manifestations had developed, particularly urticaria, necessitating the administration of adrenalin as frequently as every three hours. By the time the patient had reached the age of 16 she had learned to avoid a list of about a hundred foods, and because she had also learned to respect the allergic consequences arising from her failure to adhere to her rigid diet, medical attention and the administration of adrenalin were no longer necessary. Therefore, immediately before suggestion therapy was instituted, the only allergic manifestation noted was the "swelling of

the throat" upon eating cantaloupe or cucumbers. The patient remarked that when she attended banquets it was not unusual for her to discover that, of all the foods served, she might safely consume only the rolls. At this point it was noted that the patient had developed light hypnosis spontaneously, probably because of the existing rapport and because of the nature of the discussion. Thereupon the writer decided upon the following course of questioning:

Writer: "How tall are you?"

Patient: "Five feet, nine inches."

W: "Compared with others your age, have you always been tall?"

P: "Yes."

W: "Were you the tallest in your age group when you first reached your teens?"

P: "Yes."

W: "Does it bother you to be so tall?"

P: "It used to, but it doesn't particularly any more."

W: "But you *were* quite self-conscious about it when you were a youngster?"

P: "Yes, very. I was especially concerned about it when I started dating,

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or was out with a mixed group where I felt my height made me conspicuous."

W: "Getting back to your allergies, did your parents tell you that you would outgrow them?"

P: "Yes, that was their only means of consoling me."

W: "Has it ever occurred to you that you might have felt that you had grown quite enough and really did not want to outgrow anything; that one way not to outgrow something was by not eating, because if you did not eat you could not grow? Don't you also think that you needed a justifiable reason not to eat, and to achieve this you could conceivably develop a sensitivity to certain foods, resulting in these allergies? Don't you think that you might have felt that retaining the allergies was a lesser evil than growing tall?"

P: "That sounds reasonable."

W: "It *was* quite reasonable, as teen-age thinking goes. But now you are an adult, you can think like an adult, and you no longer need fear growing taller. Don't you think it is both silly and unnecessary to retain the allergies?"

P: "Yes, it is silly. But this is the first time anyone ever made me think like this."

W: "What are you planning on doing about the allergies, then?"

P: "I'll ignore them and see what happens."

The patient was next seen two years later. She reported that she had experienced no allergic manifestations after the single therapeutic session and, at least consciously, had employed no autosuggestion for reinforcement. In addition, she gave an extensive and detailed account of her systematic violation of her previously rigid diet and her interested discovery of her freedom from allergic manifestations. "There are a few foods of which I am not very fond, but I can eat them with impunity."

SUMMARY

The patient's equating of "growing up" with "growing taller," rather than with maturing, should be of interest to the semanticist.

While the writer has no way of knowing if the allergic condition was organic at its inception, that the retention of the symptoms was emotional has been demonstrated by the fact that the patient has been symptom-free for two years. The hypnotic suggestion eliminated the psychosomatic manifestation of that which originally may have been organic.

HYPNOSIS IN GENITO-URINARY DISEASES

by T. Duel Brown, M.D.¹

Since becoming interested in hypnosis in January 1956, I have been using it in examinations and treatments of genito-urinary diseases. As my interest and knowledge in hypnosis have increased, I have become more and more familiar with its application. I feel sure that my curiosity and my use of hypnosis will continue to increase as long as I am active in the field of medicine and surgery.

Suggestive therapy in the treatment of genito-urinary diseases has been used by us for many years. Since January 1956 I have found suggestive therapy even more effective. As my experience with hypnosis increases, I expect to become more capable of using hypnotherapy in a greater number of conditions relative to neurological, functional and even organic diseases of the urogenital system.

There is no other specialist in the field of medicine and surgery who receives more neurological, psychological, and psychosomatic complaints than the urologist.

There have been many questions and discussions but no universal agreement relative to the use or to the omission of the word "hypnosis" to the patient. One of the main things to remember is that each patient is a separate individual who should be treated accordingly. The term "hypnosis" is welcomed by some people, and I do not hesitate to use it after I feel relatively sure of the patient's attitude and desires. I have found no patient objecting to the suggestion that I show him how to relax. Frequently, the subject

will insist that he be shown how to relax, and I find this an opportune time to start with some of the suggestibility tests.

In my limited experience, I have found most patients very cooperative in following easy suggestions, such as changing positions of feet, legs, hands, and even the body from one chair or location to another. It seems that conforming to these suggestions actually enhances the patient's ability to follow more complicated suggestions and even to carry out requests later on in the trance. A great majority of these people who are willing to follow the small and rather insignificant suggestions, make excellent subjects for hypnotherapy.

In some instances, after a light to medium trance was induced and the patient awakened, I have been told after the trance that they could sense no difference in their general awareness during the trance. However, many of these subjects proved to be excellent patients by cooperating during the examinations and treatments.

Hypnosis has been used effectively in various genito-urinary examinations by getting the patient to overcome fear and apprehension by relaxation.

Since beginning the study of hypnosis, I have found consultation easier with most of the patients. It seems that I can understand more easily their mental and emotional problems. Routine examinations seem to be less difficult.

Hypnosis has been used by me in various procedures, such as:

1. Urethral catheterization, urethral dilatation, meatotomy, dysuria, etc.
2. Pan-endoscopic and cystoscopic examinations with or without urethral catheterization and pyelograms.

¹ 516 Baptist Medical Arts Building, Little Rock, Arkansas. This paper was presented at the First Annual Meeting of The American Society of Clinical Hypnosis, October 1958.

3. Vaginal examinations, which are so essential in urological evaluations.

4. Vas ligations, circumcisions, and fulguration of venereal warts, done under a medium trance by suggesting local anesthesia. In some cases, it is not necessary to go through the stage of glove anesthesia. Suggestions of anesthesia and numbness in a particular area will usually be sufficient.

5. Ureteral spasms caused by stones or Dietl's crisis may be relieved in many instances.

6. Post-operative urinary retention.

CASE REPORT 1

Mrs. X, 49 years old, who had a hysterectomy six weeks previously. I saw her in the hospital in the afternoon. She was a pleasant person but depressed because of having to wear a catheter for continuous drainage or otherwise having to be catheterized three or four times daily.

Soon after I started to talk to this lady, I decided that she would be a good subject for hypnosis, and for some reason I told her I would like to use hypnosis for the pan-endoscopic and cystoscopic examinations to be done the next morning. Without hesitation she said she would like to have me do anything that would enable her to get rid of that catheter. I explained that it was necessary to give her the examinations to determine whether or not any organic disease was present.

Then I asked her if she would like to learn how to relax for these examinations, and she said she would. So I brought my left hand downward in front of her face, asking her to watch my hand and close her eyes when my hand got down to her chin. This she did nicely. Then I gave her progressive relaxation suggestions, starting with her toes and coming on up the legs, thighs, body, shoulders, arms, hands, etc. She responded beautifully. While she was in this light trance, I explained that she would get a good night's rest and would be relaxed when she came to the examining room the next morning. I followed through with a few post-hypnotic suggestions.

The next morning, when she was on the cystoscopic table, I asked her to relax herself as she did in her bed the day before. Following my suggestions, she went into a light trance. No form of medication was used. The pan-endoscope was passed through the urethra while I explained that

insertion of the instrument would feel somewhat similar to being catheterized, except that it would feel comfortable, and that I was going to fill her bladder with water so I could see inside the bladder; as the bladder filled, she would feel the pressure and that it would be only a full feeling but she would be comfortable. After this examination, I removed the pan-endoscope.

Then I told her that I was going to insert the cystoscope as I did the other scope and that she would have the same sensations and would enjoy them. After filling the bladder, I began passing a ureteral catheter to the left kidney and told her she could feel the catheter going up the left side to the left kidney and it would be a signal for her to relax still more now. Then I passed a catheter up the right ureter with the same suggestions.

The x-ray technician came in to make the scout film. He did not recognize the patient as being in a trance and asked her to stop breathing for the exposure. The patient continued to breathe normally. After the third request, I suggested that I ask the patient to stop breathing and I asked her to stop breathing until I told her to breathe again. She complied beautifully. As I injected the radiopaque material into the kidney pelves, I asked the patient to give me a signal by nodding her head or raising one of her hands slightly if she felt any pressure sensation in either kidney region. She nodded her head as a signal. After removing the catheters, I told her I was filling her bladder again and would remove the cystoscope, leaving the bladder full.

Then I told the patient that I found no organic disease in the kidneys, bladder, or urethra and that I was going to ask her to relax her "cut-off muscle" so that she could urinate freely when I reached the count of three. I counted, "one—your 'cut-off' muscle" is relaxing, two—your 'cut-off muscle' is relaxing still more and more, three—you can void freely"—and she did! I told her she had voided freely and could do it whenever she wanted to.

I suggested that whenever she wanted to void she sit on the commode and think of being on this examining table. By doing this, she could relax the sphincter just as she did today, and she would void freely. That was just what continued to happen, and now I have a grateful patient. She was given medication to clear up the cystourethritis resulting from the catheterizations.

Post-operative urinary retention following pelvic or perineal surgery may be partially or completely relieved by post-hypnotic suggestions. I find it much more effective if the patient can be induced into a trance before the surgery.

CASE REPORT 2

This report is presented in the form of a letter to a general practitioner who attended the Seminar on Hypnosis in Little Rock in August 1958.

Dear Doctor:

Mary Lois was a mighty nice little scared nine-year-old girl, and I enjoyed her very much. In talking with her, I tried to instill confidence to the point that she knew bed-wetting, nail-biting, thumb-sucking and hair-pulling were not necessary and that she could quit them whenever she decided she wanted to. Since she had been drinking three to four Cokes each day, I suggested that she not drink more than one Coca-Cola during a day and that she drink very little water and no other liquids after four o'clock, since she went to bed around eight o'clock. I told her she could have a dry bed as long as she wanted to, but if she got lonesome for a wet bed and wanted to have a wet bed, she could have it anytime that she wanted it. I went along the line of telling her she was a big girl about ten years old now, and it was not necessary for her to have a wet bed unless she wanted it. I also told her she could have long fingernails if she wanted to but that if she wanted to bite her fingernails, I would suggest that she just bite the nail on one finger and let all of the other nails grow.

Then I suggested that she bite this one fingernail every other day for a few weeks if she wanted to, and in a short time she could start biting that fingernail two or three days a week and gradually get to the point of only biting it one day a week, but that she could continue to bite her fingernail as often as she wanted and at any time she wanted, but if she decided she wanted to bite it only once a week, she might soon decide to bite it only one day out of every two weeks, and by doing that she might finally decide that it was not necessary to bite her nail any of the time.

I also talked along the same line about her thumb-sucking, suggesting she pick out certain times she wanted to suck her thumb and during that time she suck her thumb all she wanted to in order that she could catch up, so she wouldn't have to suck it again until the next time she had decided on. Then I pointed out how beautiful her

hair was and how nice her hair would be if it were allowed to grow. I suggested that when she had the urge to pull her hair, consciously or subconsciously, she rub her hair with her hand or else comb it with a comb and she could get just as much satisfaction out of using her hand as a brush or using a comb to comb her hair as she could by pulling it.

In examining Mary Lois, by talking to her I secured her cooperation to such an extent that I was able to dilate the urethra with very little difficulty. There was no organic pathology in the urethra. The urinalysis was negative.

Feeling that a little medication might actually help, I gave her a prescription for some Donnatal Plus tablets, instructing her to take one dose about 5:30 and another at 8:00 o'clock, using only a swallow or two of water. I explained to the mother that I did not try to put her into a definite trance, but that I was attempting to lay the groundwork so that she would cooperate with you, and I suggested she bring Mary Lois to see you within a few days.

CASE REPORT 3

About three months ago one of my friends, a minister, asked me to see a couple from his church. The man was 28, and she was 32 years old. Neither had had any sexual experience. They had been married six weeks but had not had successful sex relations. Both of them were nervous and distressed and anxious. After talking to the couple for several minutes, I asked the nurse to take her to the examining room. When I walked into the room, the patient told me she was extremely nervous and scared. I talked with her a few minutes about relaxing and suggested progressive relaxation sensations. She was very cooperative and developed a light trance. When I started the examination, I explained what I was doing and also why.

After rupturing the hymen and catheterizing for a urine specimen, I gave her post-hypnotic suggestions to the effect that she could feel relaxed and enjoy sex relations with her husband. Then I talked with the couple again. Two days later she returned, saying almost everything was all right, but she wanted me to talk to her and examine her again.

A light to medium trance was induced, and another vaginal dilatation was done. She was assured that everything would work out satisfactorily. Three months later I saw the minister again, and he said they appeared to be a happy couple.

Purposely I have left out sterility and impotency, because I do not have any cases to report upon with any degree of satisfaction. At the beginning of treatment, I suggest a thorough urological examination to eliminate any organic disease. Then hypnotherapy with or without hormone therapy might be indicated.

I believe the specialty of urology is a fertile field for the use of hypnosis in many of the examinations and treatments.

So many of our patients come to the office very uncomfortable, unhappy and uncooperative. It is a pleasure to be able to do cystoscopy and pyelo-

grams on these patients and see them leave the office with a sigh of relief and a big smile. I have successfully used hypnosis in many of these examinations.

Urethral catheterizations, urethral dilatations, and cystoscopic examinations with retrograde pyelo-ureterograms should be followed by post-hypnotic suggestions in an attempt to prevent post-instrumental spasms.

Hypnotherapy is helpful in many genito-urinary examinations and treatments. Hypnosis should hurt no one and may be extremely helpful to many of our urological patients.

CONFIDENCE, THE KEYSTONE OF THE PHYSICIAN-PATIENT RELATIONSHIP: HOW HYPNOTISM IS BASED ON THIS CONFIDENCE¹

by Lester S. Blumenthal, M.D.²

Every practitioner uses hypnotism in treatment of his patients, even though he may not be aware of it. Before the patient actually meets the doctor the first time, his thoughts, attention and awareness have been definitely modified and channeled in the direction of the doctor. He has a definite purpose for consulting him, symptoms and problems he wishes to discuss with the doctor, and he has in his own mind a definite concept of what he wishes the doctor to do to or for him. Especially when he enters the office of a well-known physician, specializing in a specific field and highly recommended, his respect and anticipation are materially heightened. He projects these thoughts and actually envisions, or at least hopes, that the physician he is about to see is the best one available to handle his particular problem. If, in addition to this, he has been referred by his own general physician to the specialist, this respect, anticipation and esteem are on an even more lofty level. Is it any wonder then that if the patient receives a cordial welcome and is listened to attentively before the thorough physical and laboratory examination, that the above-described respect and esteem is compounded manyfold. When it is then time for a thorough discussion of the problem, the patient has already been reassured by the physician's reputation, specialty, thoroughness and friendliness, so that he is waiting anxiously with anticipation

for every word. With his awareness thus so heightened and his attention so directed, he is as well conditioned for hypnosis as possible. Indeed, it is difficult to say that he is not actually already hypnotized. In our headache clinic and private office (references 1 to 9) our patients come with the wish and idea that their particular problem will be handled in the best possible manner. This is so because we have had extensive experience with the treatment of headache, are vitally interested in the subject, and will pay the utmost attention to the patient. We will not dismiss him with the usual remarks that "everyone has headaches, no one dies from them, go home and take an aspirin." With these thoughts in mind, it is easy to see that our patients who have finished their examinations are ready, eager, willing, and able to listen to what we have to say and to follow directions or suggestions.

APPLICATION OF HYPNOSIS IN INTERNAL MEDICINE

Clinical application of hypnosis follows many avenues of practice in medicine and dentistry. When it is for simple analgesia, sedation, or anesthesia, hypnosis can be used in a straightforward manner without concern for deep-seated basic psychologic complexes and problems. On the other hand, the internist is often faced with symptoms and problems that are very deep-seated. These include obesity, alcoholism, tobaccoism, drug addiction, intractable headaches, and other somatic expressions, symbolic of masked neuroses or psychoses. It is here that, though much care must be taken, the family physician or internist has much to offer.

¹ From the Headache Clinic, George Washington University Hospital, Washington, D. C.

² Associate in Medicine, George Washington University, Washington, D. C. This paper was presented at the First Annual Meeting of The American Society of Clinical Hypnosis, October 1958.

Because of the deep aspects of such problems, we treat no patient without conducting a thorough history and physical, x-ray, and laboratory evaluation in each instance. In this way, every physical condition is understood and takes its proper perspective. This leaves us with the large majority of patients seen in internal medicine who have psychosomatic, functional, or symbolic symptoms. It is then that we are able, with thorough confidence, to evaluate these symptoms and to explain to the patient what they are, why they have them, and what avenues must be further explored to determine the basis for them. Many of these symptoms are accompanied by generalized heightened anxiety and tension. I might here suggest the use of hypnotic techniques to teach the patient how to relax. When superficial hypnosis is used in this manner, the patient is greatly reassured, confidence is markedly heightened, and their understanding of the psychosomatic basis for their symptoms is increased.

A thorough understanding of the above-described mechanisms and of the role of the patient and the physician during a complete medical evaluation provides a panoramic view of the many intricacies of the physician-patient relationship. It is in the actual semantics of this relationship that, as I stated in my opening sentence, hypnotic mechanisms are at work in many ways and in every relationship between the patient and the physician.

Confidence, which I envision as the keystone of every physician-patient relationship, can only be heightened and multiplied again and again as hypnotic techniques are successfully applied to the individual patient. In our practice, hypnosis at times is used upon my suggestion that it might be useful to that patient, at times I will use its techniques without actually telling the patient what we are doing, and at other times, the patient requests

its use for specific symptoms, such as obesity, alcoholism, tobaccoconism, or insomnia. It would be superfluous to quote case examples of each different condition amenable to hypnotic therapy, as most of these will be adequately covered by other speakers. There is, however, one area of great interest to every physician. That is the anxious, hysterical telephone call in the middle of the night, prompted by severe pain, anxiety, insomnia, and often fear of some dread disease. These often occur long after every drugstore in town is closed, and the physician is thus faced with the prospect of getting fully dressed and traveling, often through rain or snow, to a remote area of town, for the purpose of reassuring a patient and administering a narcotic or sedative injection. When there is an excellent physician-patient relationship built up through long previous association, reassurance, relief of anxiety and pain, and actual induction of hypnotic sleep is often possible even over the telephone. A dramatic illustration of one such nocturnal episode can be provided by the following case history:

This case illustration is that of a 34-year-old white married housewife, who had been under my care since 1955. Through an excellent professional relationship, heightened confidence had been built up, leading to discussion of many personal matters as well as her routine medical problems. She had a full understanding of the many psychosomatic problems that had occurred in the past, and had been in good health during the preceding eighteen months. At 1:30 in the morning of July 19th, 1958, I was awakened from sleep by a frantic phone call, and behind the voice on the phone, I could hear much commotion occurring in the room. The caller stated that she was a neighbor and friend of the family, and that the patient was in bed, completely paralyzed. Two local physicians had been called, but could not be reached (the patient lived across the river, in Virginia, at least one hour's drive from my home). She knew of the confidence the patient had in me, and was sure that if anyone could do something for her, I certainly could. The caller was so excited that I demanded that the patient's husband be

put on the phone immediately. I told him that whatever it was, it certainly was not good to have all the excitement going on about his wife, and that he should get everyone else out of the room (apparently there were several other neighbors there, too) and then sit down and tell me the story, which he proceeded to do as follows. His wife had been in excellent health until two days before. At that time, she noticed a generalized grippy feeling and a mild headache and pain over the occiput and upper neck areas. She had had a recent cold, and she thought these symptoms were due to a sinus flare-up, which she had often had in the past. During the day of the 18th, the patient was busy preparing for a birthday party for her son. This was an exhausting day, and she was so tired she could hardly eat her dinner after the party was over. After dinner, while trying to get up and leave the table, she felt that her legs were so weak they would not hold her. Her husband helped her up the steps and into bed, where, although extremely tired, she was unable to sleep. As the evening wore on, she felt weaker and became quite dizzy. She noticed that when anyone, or the bedclothes, touched her legs, they felt numb and "far away." The legs later became progressively weaker and cold. She also noticed a general chilly sensation to her body, and extreme anxiety, tension and apprehension. By this time, she was unable to move any muscle in her legs, and they felt numb from her waist down. It was then that she began to imagine that perhaps her illness was not just a virus or sinus, and that she might be developing a stroke or even paralytic polio. After obtaining all of this history, I had the husband test the patient's sensation and muscular tone. She was unable to move a muscle in her legs, felt absolutely no sensation of hot or cold or pain of a pinprick, and upon passive motion the legs were quite stiff. He did report that her breathing was quite deep and rapid and that she felt that she could not catch her breath. By this time, it was my opinion that the patient had definitely had a recent infection, with concomitant headache and nuchal myalgia, had become exhausted by her illness and wearing day, and that the leg symptoms were now the result of hysteria and hyperventilation. Before proceeding further, I had the husband test her neck, and he reported to me that he could move her head about in any direction, without any apparent stiffness of her neck. I explained the whole situation to him, and used the suppleness of her neck as reassurance

to him that she did not have poliomyelitis, that in my opinion it was not necessary to rush her to the hospital that instant for spinal tests, x-rays, and extensive examinations, all of which could well wait until morning, and be done then if necessary. Also, since I was an hour's ride away, I did not want to let her suffering go on for the hour it would take me to come to her house. I therefore would see what I could do by talking to her on the telephone. He was instructed that I would talk to her while he was sitting next to her bed. He was to turn out all the lights, make sure there was no noise in the house, and to watch her as I talked to her. He was told to put the telephone in her right hand, have her hold it to her ear while resting on the pillow, and that when she seemed to drop the telephone, he should pick it up and I would give him further instructions. She was then prepared in this manner, and I proceeded to talk to her as follows:

I told her that I understood what was happening, and that she most likely had had a recent virus infection, which had caused her headache and stiffness of her neck, that the ordeal of preparing for and undergoing the strenuous day of her son's birthday party had exhausted her further in addition to her virus. This exhaustion showed up as weakness of her legs. Her concern and anxiety over this had caused her to become tense, which in turn made her breathe too heavily and too rapidly, and when anyone breathes in this manner, his arms and legs become stiff and cold and numb. I told her to listen to me and do as I told her, and she would understand what I am talking about. I told her that I could tell by her breathing, even over the telephone, that she was breathing the wrong way, and for her to follow my directions and breathe slowly and deliberately in and out, very slowly, and she will notice that as she takes a long, deep breath in and as she lets it out very slowly, she will become more and more relaxed, that all the tension and strain will go out of her hands and her legs, that her legs will relax and will begin to feel warm, and she will notice that with every breath she takes, this will become increasingly so. I kept reassuring her in this manner, and by compounding the suggestions I told her just to listen to me, and to follow directions, and she would see that everything I told her would become true, because I could tell by the way she was breathing that she was correcting her faulty breathing very well and that she was cooperating as well as any patient I ever had. I could actually tell from her

breathing that she was relaxing beautifully and that as she breathed and relaxed this way, and as she listened to what I told her, that this relaxation would come from the top of her head down to the bottom of her toes and she would notice that her eyes would close because she was so relaxed, and as she continued to do all of this, an overwhelming feeling of relaxation would come over her and that she would gradually fall asleep. She would be so relaxed that she would sleep soundly through the night, would awaken at 9 in the morning, feel much relaxed, her legs would be warm, the feeling would be coming back into them, and she would be able to use them. I kept up this verbalization for at least ten minutes, uninterruptedly over the phone. At the end of this time, her husband picked up the phone and told me that she had fallen asleep, had dropped the phone, and she was breathing very comfortably and was completely relaxed. I again repeated to him what would happen and told him to call me in the morning a few minutes after she woke up, which would occur at 9 o'clock. The next morning he called me at 9:10, told me that she had awakened once during the night, had gone to the bathroom, came back and got into bed, had gone to sleep immediately, had slept well again, woke up at 9 sharp, and was feeling much better. There still was stiffness in the legs. There still was headache and tightness in the neck. I told him to let her rest at home for the next few days. On July 22nd she was examined thoroughly in the office. At that time she still had tenderness and stiffness over the occipital and left cervical muscles. In addition to this, I found spasm and tenderness of the dorsal and lumbar areas. Although objective examination of her legs was normal, she still felt that her legs were weak and "clumsy." She responded in an excellent manner over the next few days to physical therapy, analgesia and mild sedation. When last seen on September 5th, 1958, she was in excellent general condition.

COMMENT

This case well illustrates a common problem facing every physician. The confidence that had developed by means of an excellent physician-patient relationship built up over the years enabled the patient and her husband to accept every suggestion offered, even during an extreme emer-

gency. Not only was this emergency handled as rapidly as possible by phone, without my having to lose half a night's sleep, at the patient's home, at the hospital, and in traveling time, but the patient herself gained the most from this experience. She was saved from another hour of extreme anxiety, apprehension, and suffering. Had I not been able to apply hypnotic techniques in this manner, I would have been forced to administer strong sedatives or narcotics, and if I had been unaware of the psychodynamics involved, I would have been forced to take her to the hospital and perform a complete battery of neurologic examinations. All of this would have taken hours and days instead of the ten to fifteen minutes required over the telephone. Thus, we can see that knowledge of simple techniques of hypnosis can be applied to best advantage by the general physician in his handling of his own patients with whom he has developed an excellent professional relationship by means of personal care over the years.

SUMMARY AND CONCLUSIONS

Hypnotic techniques have a wide field of application in the practice of internal medicine. Proper conditioning of the patient includes thorough examination and evaluation, education of the patient as to the meaning of his symptoms, prescriptions of medication and diet or other instructions that the patient would receive as to his physical and mental well-being, if hypnosis were not being considered. Once this is done, the indicated hypnotic techniques are explained to the patient. When this is presented in a straightforward manner, it is easy to determine whether the patient will really follow the outlined course of treatment or not. Too many patients come in expecting a "pink pill" or "hypnosis" to correct deep-seated habits and problems, without actually work-

ing on the problem. When I sense that the patient is just shopping for a quick panacea in this manner, I do not feel that he is a proper candidate for hypnotherapy. However, when I find that my explanations have been accepted and that my instructions are completely and eagerly carried out, I then feel that application of hypnotic techniques

is well worth the investment of the time and energy required. The practice of internal medicine provides many areas in which hypnotic techniques can be employed to advantage. Confidence, the keystone of the physician-patient relationship is the basis for successful application of hypnotic techniques in medical therapy.

REFERENCES

The following articles by L. S. Blumenthal and M. Fuchs:

1. Headache clinics I: What is the headache problem? *Am. Pract.*, 1:10, 1950.
2. Headache clinics II: migraine headache. *Am. Pract.*, 2:2, 1951.
3. Migraine and other head pain. *Arch. Neurol. & Psychiat.*, 65, (April) 1951.
4. Headache clinics III: Endocrine therapy in migraine. *Am. Pract.*, 2:9, 1951.
5. (With A. B. Bennett.) Headache clinics V: tension headache. *Am. Pract.*, 4:10, 1953.
6. Headache clinics VI: The problem of nausea and vomiting during headache attacks. *Am. Pract.*, 7:3, 1956.
7. Definitive diagnosis and treatment of headache. *So. Med. J.*, 50:12, 1957.
8. Chronic headache: an analysis of 1,254 cases observed for more than six months with suggestions regarding their diagnosis and treatment. *Ann. of D. C.*, 26:11, 1957.
9. Headache clinics VII: Meprobamate: an adjunct to successful management of chronic headache. *Am. Pract.*, 9:7, 1958.

BOOK REVIEWS

S. Irwin Shaw. *Clinical Applications of Hypnosis in Dentistry*. Philadelphia, W. B. Saunders Co., 1958. Pp. 173.

By Irving I. Secter, D.D.S.

The author of this book states in the preface that it was not intended as a comprehensive work, but rather as a simple working manual to be used in conjunction with other books. For the sophisticate, it was intended as a reference; for the beginner, as an outline of routine procedures in the induction of hypnosis. While it frankly undertakes to explain "how-to-do-it," the author properly calls attention to the limitations of the technique and the need to beware of the dynamic factors existing in the patient-doctor relationship.

The book is brief and its contents, at an elementary level, are suited for the beginner. The therapist who is already experienced in induction procedures and the psychology of interpersonal relationships will find little new material. The novice who attempts to learn "all about hypnosis" from a book may be misled by some of the elements this book has in common with many other popular books on hypnosis. The reference here is to the "hypnotist-centered" psychology of some of the induction procedures. The author recognizes that induction of hypnosis is a cooperative venture and ascribes teacher-pupil roles to the operator-subject relationship. Emphasis of this point may serve to cancel the possibility that the myth of the hypnotist's power may be perpetuated by such terms as "mind-set" and by the techniques of challenging and the authoritative suggestions involved therewith.

The novice may also fall into the trap of attempting to apply formalized verbalizations which are not always compatible with the subject's responses at a given time. The reader is made aware of such possibilities in the introduction to the appendix and in the case histories.

Without qualified personal instruction, the reader may tend to become a hypnotist rather than a dentist who uses hypnosis. This applies to any book giving techniques, and here again the unqualified practitioner is warned in the latter half of the book.

The negative aspects of the foregoing criticisms disappear when we appraise the work from the point of view of the author's intentions. The book, as a manual, has tremendous value for the beginner when used

as a supplement to a course of instruction. The author has gathered in one volume many techniques now being taught by recognized and qualified teachers in private courses, at universities, and in seminars. The teacher, by lecture and by demonstration, has the opportunity to elaborate on the printed word, which then serves as a reminder of demonstrations and verbalizations. This manual can be very supportive and comforting to the instructed beginner as he practices his verbalizations and gains experience in the art of suggestive therapeutics.

Milton V. Kline. *Freud and Hypnosis: The Interaction of Psychodynamics and Hypnosis*. New York, Julian Press and Institute for Research in Hypnosis Publication Society, 1958. Pp. xii + 207.

By Ernest R. Hilgard, Ph.D.

This book is presented in three parts: the first part (3 chapters), largely about Freud and Breuer; the second part (4 chapters) reviewing the author's own experimental work; the third part (1 chapter) devoted to clinical considerations, concerned largely with a study by the author and his collaborators comparing a group of normal students with a group of amputees in their reactions to card 12M of the Thematic Apperception Test.

The author has done a service both in providing a source of information on Freud's views and in giving very readable summaries of his own experimental work. The book does not, however, provide the comprehensive coverage of psychodynamics in relation to hypnosis which its title might lead the reader to expect.

The selection of quotations from Freud presented in Chapter 1 (pp. 7-14) is quite representative of what Freud thought and said, but the direct quotations are presented without dates to give the development of his thinking, and are all from *Studies in Hysteria* and *Collected Papers* (the edition that does not include his books). Quotations from the later *Group Psychology and the Analysis of the Ego* are, however, presented in subsequent chapters.

Although other ideas of Freud may be more pertinent to present-day hypnosis than his views directly upon hypnosis, as Dr. Kline states on p. 185, Dr. Kline does not include a systematic treatment of the non-hypnotic Freudian ideas pertinent to

hypnosis, and appears, indeed, to reject them in favor of Pavlovian ideas (pp. 149f.) While there are occasional references to their writings, the author does not consider in any detail the views of present-day psychoanalysts who have paid attention to hypnotherapy. The implication that they usually remain "outside the fold" of the organized psychoanalytic movements (p. 3) is surely not applicable to such investigators as Kubie, Farber and Fisher, Brenman and Gill. Because the author did not set himself the task of filling in the post-Freudian history within psychoanalysis, we lack the statements by Anna Freud, Ernest Jones, Ferenczi, and Fenichel that could have rounded out the picture.

Dr. Kline's experiments are very ingenious, and it is a genuine service to the busy reader to have them collected together in easily accessible form. The experiments using delayed feedback to investigate the nature of auditory deafness, those studying induced temperature changes, and those using projective materials in various ways contain many stimulating ideas.

The theoretical discussions interspersed throughout the book show thoughtfulness but a tendency to sweeping statements, some of which are clear but of undemon-

strated validity, others of which are unclear and hence difficult to judge. As an illustration of a general statement that would require more proof to establish, consider the following: "The incorporation of hypnosis into therapy produces a level of mental functioning so much more basic or retrogressive [than psychoanalysis] that it is impossible to maintain and reinforce a child-parent relationship rigidly [as psychoanalysis apparently requires]" (p. xi). The following statements are unclear: "Hypnosis then is a multidimensional behaviorism, not a unitary equation" (p. 54). "It [hypnosis] becomes in essence a recapitulation of the nuclear core of learning from a phylogenetic and ontogenetic frame of reference" (p. 182).

Our gratitude to Dr. Kline for two useful contributions—the clarification of the relationship between psychoanalysis and contemporary hypnotherapy, and the desire to establish hypnotic phenomena on a sound scientific basis—is mixed with some disappointment that he did not choose to fill in the gaps in the historical record between Freud and the present, and that his own scientific work, while in itself valuable and provocative, has not led to more rigorous theorizing.

ABSTRACTS OF CURRENT LITERATURE

Edited by Bernard E. Gorton, M.D.

The abstracts below which are followed by the letters P. A. are reprinted from Psychological Abstracts through the courtesy of The American Psychological Association.

Bowers, M. K., & Brecher, S. The emergence of multiple personalities in the course of hypnotic investigation. *J. clin. exp. Hypnosis*, 1955, 3, 188-189.

This is a report on the more manifest dynamic material involved in the emergence of a multiple personality structure under hypnosis. The author concludes that the multiple personality structure was not produced by the hypnosis, but preceded the beginning of the hypnotic work. The multiple structure wasn't revealed by clinical and psychological examination prior to the hypnosis. The patient in his conscious state was not aware of his 3 underlying personalities, each of which reported distinctive dream material and Rorschach responses. (P.A.)

Dorcus, R. M., & Goodwin, P. H. The treatment of patients with the dumping syndrome by hypnosis. *J. clin. exp. Hypnosis*, 1955, 3, 200-202.

The Taylor Anxiety Scale and the Minnesota Multiphasic Inventory indicated that a group of subtotal gastrectomy patients with the dumping syndrome were more anxious and more neurotic than a comparable group without this syndrome. The hypnotic treatment of four of the patients with dumping syndrome is reported on. The treatment was aimed at symptom relief only. Remission of symptoms had been uniformly found. (P.A.)

Fogelman, M. J., & Crasilneck, H. B. Food intake and hypnosis. *J. Amer. diet. Ass.*, 1956, 32, 519-523.

Hypnosis was employed with twelve patients suffering from a variety of diseases associated with nutritional aberrations. It was effective in increasing total caloric intake, allaying specific food restrictions, and dulling pain and symptoms of gastrointestinal disorders which resulted in loss of appetite. The general indications and contraindications for the use of hypnosis as a form of therapy have been presented. Avenues of research and application for the use of hypnosis relative to disease have been discussed. (P.A.)

Meares, A. A note on the motivation for hypnosis. *J. clin. exp. Hypnosis*, 1955, 3, 222-228.

Explanations of both the patient and therapist motivations for and against the use of hypnosis are discussed. It is concluded that for the best results in the selection of cases and the choice of the particular form of hypnotherapy to be used, the therapist should be clearly aware of these factors. (P.A.)

Stokvis, B. Hypnosis and psychoanalytic method. *J. clin. exp. Hypnosis*, 1955, 3, 253-255.

The author examines the use of hypnosis in psychoanalytic treatment. In orthodox psychoanalysis the application of hypnosis is an evidently alien element although admittedly "hypnoid" changes occur in the consciousness of both the psychoanalyst and the patient. By cutting through the psychoanalytical technique with that of analyzing the patient's dreams during hypnosis, one enters the field of "short therapy." In the Leyden Psychiatric Clinic a cathartic-analytic treatment in the waking state with psychoanalytic viewpoints is used, while endeavoring to re-enact repressed psycho-traumatic events in the hypnotic state. (P.A.)

Thenon, J. La esquizofrenia y el estado hipnoide. (Schizophrenia and the hypnotic state.) *Acta Neuropsiquiat., Argent.*, 1955, 1, 369-379.

Physiological research on cortical activity by conditioned reflexes reveals "a succession of definite states of the cerebral cortex, the phase states, which . . . con-

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stitutes the hypnotic state." Phases of the same cortical cell debility which is the basis of the hypnotic state are seen in schizophrenia. Constitutional and biochemical variables relevant to cerebral cell conditions characteristic of the schizophrenic and hypnotic states are also discussed. English and German summaries. (P.A.)

Ambrose, G. Multiple sclerosis and treatment by hypnotherapy. *J. clin. exp. Hypnosis*, 1955, 3, 203-209.

Present day treatment of multiple sclerosis appears inadequate from the psychological viewpoint and patients are too often forced to show negative response to the illness. Six patients have been treated by hypnotherapy with marked subjective improvement. Three of these cases are described. The aim in these cases is to put the patient more in control of his organism. Patients should be told that their symptoms must never control them, they must control their symptoms. (P.A.)

McCord, H. Hypnotherapy and stuttering. *J. clin. exp. Hypnosis*, 1955, 3, 210-214.

Evidence is presented to support the assumption that hypnotherapy should be given more research attention in speech pathology. Care must be taken in reporting precisely what hypnotic procedure was followed, as this is critical in determining the lastingness of the treatment. The more sophisticated hypnotherapeutic procedures like psychotherapy under hypnosis, hypnoanalysis, attitude change, etc., can be expected to produce more permanent effects than simple suggestions for symptom remission. (P.A.)

Le Cron, L. M. The relief of gagging by hypnosis. *J. Amer. Soc. psychosom. Dent.*, 1955, 2, (1 & 2), 13-15.

Extreme patient gagging, which is a difficulty sometimes encountered by dentists, "almost invariably," is associated with "some experience in childhood." Causes can be brought to light under hypnosis and may be handled by the dentist if he is sufficiently trained. Cases are cited. (P.A.)

Erickson, M. H. The hypnotherapy of two psychosomatic dental problems. *J. Amer. Soc. psychosom. Dent.*, 1955, 2, (1 & 2), 6-10.

In the fields of dentistry and plastic surgery patients are encountered who seek aid for physical problems where the primary consideration is the individuals' personality reaction. The operator from whom such persons usually seek aid may often fail, no matter how skilled, if the importance of the emotional demands of the patient are not understood. Two case histories are cited where the emotional factors which hinged on dental anomalies were adequately treated without physical operative techniques. (P.A.)

Rudolph, Wolfgang. Ablationshypnose als ultima ratio bei chronischen Schmerzzuständen. (Ablation-hypnosis as ultimate recourse in chronic pain.) *Psychiat. Neurol. med. Psychol.*, Leipzig, 1955, 7, 365-370.

A patient with severe intractable pain due to a traumatic spinal cord lesion was not relieved by two neurosurgical procedures and relied on morphine for seven years. Autohypnotic pain relief was effectively instituted during six weeks of hypnotherapy; the technique is described. During a 1¾ year follow-up period, the patient continued to be able to relieve pain totally without recourse to narcotics. (P.A.)

Loewald, H. W. Hypnoid state, repression, abreaction, and recollection. *J. Amer. psychoanal. Ass.*, 1955, 3, 201-210.

The hypnoid state is the equivalent of the ego state corresponding to the period of infantile sexuality. Traumatic experiences are laid down as unconscious memory traces. Repression is a regressive repetition of the nonarrival in consciousness originally due to the immature state of the ego. Recollection originates in old unconscious body memories and results in the verbalizing of experiences never before put into words. Working through in analysis consists in abreaction on the verbal level plus associative adjustment founded on this abreaction. (P.A.)

Schneck, J. M. Hypnotherapy for achalasia of the esophagus (cardiospasm). *Am. J. Psychiat.*, 1958, **114**, 1042-1043.

A report is given of a 48 year old patient with cardiospasm of two years duration, with accompanying dysphagia, eructation, regurgitation, lacrimation, and weight loss. Initial hypnotherapy allaying anxiety and reducing muscle tension produced some improvement. Further hypnotherapy by conditioning in relationship to relaxation and fantasied ingestion of food produced further results. More study of the problem by hypnosis in early cases is recommended as a measure to forestall structural changes.

Alston, E. F., M.D. A few comments on psychological problems in clinical dentistry. *J. Dent. Med.*, 1958, **13**, 187-194 (Oct.).

The mouth is associated with pleasure and pain, and patterns related to experiences of love, hate, fear and guilt, etc., in early life are reflected in the patient's behavior towards dentistry. Seeing a dentist, for most patients, means submitting an intimate part of themselves for inspection and manipulation, and the dentist may, within the unconscious processes of such patients, become a target for this love, hate, fear, and guilt. In addition, consciously anticipated physical pain adds further to the psychological problems in clinical dentistry. The dentist is also reminded of his own sensitivity and vulnerability in the patient-dentist relationship. Hypnosis is briefly mentioned as an adjunct in relieving pain and anxiety, but it is pointed out that technical skill and the positive approach of sureness and self-confidence on the part of the dentist are the best combination for dealing effectively with psychological problems that present themselves in dental practice. (S. Irwin Shaw.)

Stolzenberg, J. Hypnosis, an adjunct to anesthesia in operative procedures. *J. Amer. Soc. Psychosom. Dent. & Med.*, Vol. 4, No. 4, Oct. 1958.

The introduction of hypnosis to dental practice is equal in importance to the original presentation of anesthesia to the dental profession, and in the hands of the properly trained individual hypnosis can help reduce the risks which might be entailed with some patients when chemical anesthetics alone are used. Circulatory reactions in the patient, untoward respiratory reactions, and convulsive reactions in connection with chemical anesthesia, together with many possible complications which might prove hazardous, call for the need of adjunctive means to reduce these risks. Hypnosis is offered as an ideal adjunct to be used with the chemical anesthetic of choice. Hypnosis when used alone or with an anesthetic agent reduces apprehension and anxiety and helps produce normal physiological homeostasis and a normal metabolic rate, to the advantage of both patient and dentist. The positive approach, prestige, and the proper environmental background are all important towards the successful application of hypnosis and this is outlined by case references. In conclusion five items are offered for consideration towards the advancement of training in hypnosis. (S. Irwin Shaw.)

Staples, L. M. Relaxation through hypnosis, a valuable adjunct to chemo-anesthesia. *J. Amer. Dent. Soc. Anesthesiology*, October 1958.

The relationship between psychological factors and physical ailments is outlined, and hypnosis is offered as a technique of psychosomatic therapy. The approach towards this technique includes patient education for overcoming resistances, and the manner of obtaining the necessary patient relaxation in the office is also given. All the factors necessary for successful acceptance of the relaxed state are outlined, and once the trance is induced, local anesthetic may be used in conjunction with hypnosis without concern on the part of the patient. Perfect anesthesia can thus be obtained with only a minimum of chemical anesthetic being required. In the conclusions it is stressed that hypnosis is not a substitute for other accepted methods of therapy and is an adjunct to be used only when indicated. The training in the use of hypnosis calls for an understanding not only of techniques but also of patient behavior, and this knowledge properly applied can reduce the patient's fears and anxieties. (S. Irwin Shaw.)

The American Journal of Clinical Hypnosis

Volume I, Number 4
April, 1959

77C
APR 28 1959

Official Journal

The American Society
of Clinical Hypnosis
and

The Academy of Applied Psychology
in Dentistry



THE AMERICAN JOURNAL OF CLINICAL HYPNOSIS
is published quarterly at 219 Forest Park Road, Lexington,
Kentucky, in January, April, July, and October. The address
of the Editor is 32 West Cypress St., Phoenix, Arizona.

Subscription per year, \$6; single numbers, \$2. There
is a rate of \$5 for libraries of non-profit institutions (medical
societies, hospitals, and educational institutions).

Manuscripts, books for review, subscriptions, and
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